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## The Law of Trade Secrets: Toward a More Efficient Approach

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# NOTES

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### I. INTRODUCTION

Trade secret law must *efficiently* protect that which can be considered a trade secret.<sup>1</sup> Were the law to provide too little protection, information protected as a trade secret would not be created. Were the law to provide too much protection, competition would be unnecessarily stifled. Only efficient protection, meaning neither too little nor too much, appropriately addresses the unique nature of trade secrets as intellectual property. Such a conclusion

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1. Roughly, that which can be protected as a trade secret is an unknown, commercially valuable idea that has been taken by means that the law considers inappropriate; an idea that has been misappropriated. *See infra* note 56 and accompanying text. Obviously, the scope of trade secret law defines that which can be protected as a trade secret. Defining trade secret law to protect ideas in a different way than the law currently does is the ultimate focus of this Note.

becomes increasingly necessary given the rising import of trade secret law in the spectrum of intellectual property.<sup>2</sup>

"It is the policy of the law, for the advantage of the public, to encourage and protect invention and commercial enterprise."<sup>3</sup> With this, the first sentence in *Peabody v. Norfolk*, states began to recognize that the law must protect commercial secrets to insure that those secrets will be developed.<sup>4</sup> Despite the threats of preemption by the federal patent scheme,<sup>5</sup> state trade secret law remains essential to

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2. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 493 (1974) ("Congress, by its silence over these many years, has seen the wisdom of allowing the States to enforce trade secret protection."); *Rockwell Graphic Sys., Inc. v. DEV Industries, Inc.*, 925 F.2d 174, 180 (7th Cir. 1991) (explaining that the holding of the trade secret case is important "because trade secret protection is an important part of intellectual property, a form of property that is of growing importance to the competitiveness of American industry"); Robert G. Bone, *A New Look at Trade Secret Law: Doctrine in Search of Justification*, 86 CAL. L. REV. 241, 243 & n.1 (1998) ("Trade secrets are among the most valuable assets firms own today, and many courts and commentators believe that the law of trade secrets is crucial to the protection of intellectual property."); Vincent Chiappetta, *Myth, Chameleon or Intellectual Property Olympian? A Normative Framework Supporting Trade Secret Law*, 8 GEO. MASON L. REV. 69, 71 (1999) ("The case reporters burgeon with growing numbers of trade secret disputes, big and small, involving everything from traditional commercial manufacturing processes, formulas and customer lists, through hockey franchise information to magic tricks."); Marina Lao, *Federalizing Trade Secrets Law in an Information Economy*, 59 OHIO ST. L.J. 1633, 1633 (1998) ("Trade secrets law, once considered a secondary source of intellectual property protection for less significant innovations, has evolved into an important incentive for innovation in the information age."); Douglas Gary Lichtman, *The Economics of Innovation: Protecting Unpatentable Goods*, 81 MINN. L. REV. 693, 732-33 (1997) ("Federal law cannot keep pace with technology. . . . State law can mitigate the impact of this type of delay, acting as a low-level, band-aid remedy during the period between the advent of a new technology and its incorporation into the federal scheme."); J.H. Reichman, *Legal Hybrids Between the Patent and Copyright Paradigms*, 94 COLUM. L. REV. 2432, 2438 (1994) ("Legal theorists have particularly underestimated the important role of trade secret laws . . . in mediating between formal intellectual property regimes and free competition.").

3. *Peabody v. Norfolk*, 98 Mass. 452, 457 (1868). See generally RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 305 (5th ed. 1998) (noting that "[t]he principal argument for a monopoly [is] . . . as a way of encouraging innovation").

4. *Peabody*, 98 Mass. at 457; Don Wiesner & Anita Cava, *Stealing Trade Secrets Ethically*, 47 MD. L. REV. 1076 (1988) (noting the import of *Peabody* and the incentive to create justification for trade secret law yet arguing that courts, in dealing with trade secret cases, ultimately have "ethical intentions"). See generally POSNER, *supra* note 3, at 305 (noting that "[t]he principal argument for a monopoly [is] as a way of encouraging innovation").

5. The Supreme Court, in 1974, concluded that the federal patent law does not preempt state trade secret law. *Kewanee Oil Co.*, 416 U.S. at 493 ("Trade secret law and patent law have co-existed in this country for over one hundred years. Each has its particular role to play, and the operation of one does not take away from the need for the other."). But, any significant modification of state trade secret law may yet be considered preempted by the federal patent scheme. See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 155-56 (1989) (reaffirming *Kewanee* but making clear that "state regulation of intellectual property must yield to the extent that it clashes with the balance struck by Congress in our patent laws"); *infra* notes 70-89 and accompanying discussion.

providing incentives for innovation.<sup>6</sup> In addition, courts have noted that trade secret law exists to institute a form of commercial morality, to impose certain ethical standards on business relationships.<sup>7</sup> Absorbed by this potential of mandating morality, courts have molded trade secret law in ways that frustrate the notion that trade secret law should provide efficient incentives to create.<sup>8</sup>

The ultimate focus of this Note is to identify the truly efficient nature of the protection afforded by state trade secret law.<sup>9</sup> Further,

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6. *Kewanee*, 416 U.S. at 493 (holding that the federal patent laws do not preempt state protection of trade secrets and noting the import of state trade secret law in encouraging the production of information that that has “an important part to play in the technological and scientific advancement of the Nation”); Bone, *supra* note 2, at 243 (“Trade secrets are among the most valuable assets firms own today, and many courts and commentators believe that the law of trade secrets is crucial to the protection of intellectual property.”); Christopher Rebel J. Pace, *The Case for a Federal Trade Secrets Act*, 8 HARV. J.L. & TECH. 427, 427 (“In this ongoing battle over information and innovation, numerous state laws play an important role by providing a remedy for the misappropriation of a company’s most valuable confidential information—its trade secrets.”); Michael A. Epstein & Stuart D. Levi, *Protecting Trade Secret Information: A Plan for Proactive Strategy*, 43 BUS. LAW. 887, 887-88 (1988) (noting the distinction between federal patent and state trade secret protection and identifying that “Corporate management has a favorable view of trade secret protection because it is a cost-effective approach for protecting a large percentage of a company’s proprietary information”).

7. *See Kewanee*, 416 U.S. at 481-82 (noting that both “the maintenance of standards of commercial ethics and the encouragement of invention are the broadly stated policies behind trade secret law.”); *Wilson Certified Foods, Inc. v. Fairbury Food Products, Inc.*, 370 F. Supp. 1081, 1082 (1974) (“This protection given to trade secrets is a shield, sanctioned by the courts, for the preservation of trust in confidential relationships.”); Harry Wingo, Note, *Dumpster Diving and the Ethical Blindspot of Trade Secret Law*, 16 YALE L. & POL’Y REV. 195, 195-96 (1997) (“Trade secret law is complex and still emerging, but throughout its development, trade secret law has consistently promoted minimum standards of commercial ethics. Indeed, promoting commercial ethics is one of trade secret law’s fundamental purposes.”); Wiesner & Cava, *supra* note 4, at 1077 (discussing the ways in which courts use trade secret law to police commercial reality and noting the following: “Undoubtedly, courts believe that ethical standard are of some assistance in applying trade secret principles, particularly in cases of first impression.”); Ramon A. Klitzke, *Trade Secrets: Important Quasi-Property Rights*, 41 BUS. LAW. 555, 557 (1986) (“Whatever theory ultimately justifies trade secret protection . . . it is clear that its home port is fairness and honesty between business competitors.”).

8. *See infra* Part IV.A.2; IV.B.3.

9. Many commentators focus intense economic analysis on the patent regime to the exclusion of trade secret law. Further, those that do analyze the economics of trade secret law fail to appreciate its potential as a broad and particularly efficient protectorate of intellectual property. *See, e.g.*, David Friedman et al., *Some Economics of Trade Secret Law*, 5 J. ECON. PERSPECTIVES 61, 62-66 (discussing the potential import of trade secret law as seen in cases like *E.I. du Pont deNemours & Co. v. Christopher*, 431 F.2d 1012 (5th Cir. 1970) and, after conducting a basic analysis of trade secret law and its efficiency, noting that there is “in a sense no law of trade secrets” and not discussing the ways in which trade secret law has been molded so as to create inefficient results); Reichman, *supra* note 2. Professor Reichman, while recognizing many of the efficiency gains of trade secret law, proposes substantial modification to trade secret law to combat what he sees as a failure of trade secret law to provide innovators with sufficient lead-time to recoup the costs incurred to developing the idea protected as a trade secret. *Id.* at 2532-33 (“Now that classical trade secret law threatens cutting-edge technologies with a chronic shortage of lead-time, legal theory must devise means to improve on nature by

this Note seeks to identify the importance of efficient intellectual property protection.<sup>10</sup> This Note contends that courts should abandon those aspects of trade secret law more recently grafted onto its efficiency underpinnings with hopes of mandating commercial morality.

Part II first identifies the need for promoting efficient outcomes through intellectual property laws. Part II continues by discussing the extent to which the two most relevant forms of protection granted to commercially valuable ideas, trade secret law and patent law, create efficient outcomes. Part III identifies the current state of trade secret law. Finally, Part IV presents a form of trade secret law that appropriately promotes the law's efficient outcomes.

## II. INTELLECTUAL PROPERTY AND EFFICIENCY

Trade secret law, unlike any other form of intellectual property, grants a property right that is limited by competitive forces.<sup>11</sup> As such, trade secret law, so long as it is untainted by the potential of mandating commercial morality, is uniquely efficient.

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rationalizing the delivery of the pro-competitive functions that this body of law is supposed to perform." This Note more concretely identifies the efficient nature of trade secret law than does Professor Reichman. See *infra* Part IV. Further, while this Note proposes modifications to trade secret law in hopes of providing for efficient innovation, the proposals are quite slight in comparison to those sought by Professor Reichman. Compare *infra* Part IV with Reichman, *supra* note 2, at 2544-57. This Note supports less substantial modifications primarily because it does not accept Professor Reichman's premise that traditional trade secret law has failed in providing sufficient protection to innovators not interested in or unable to garner protection under the federal patent scheme. See Reichman, *supra* note 2, at 2532-33; *infra* Part IV. This Note argues that trade secret law has not yet failed but has not been given the opportunity to succeed.

10. Society benefits when monopoly power is reduced. To provide a sufficient incentive to innovate, the law must grant innovators a right to exclude others from using their idea. See *infra* notes 12-20 and accompanying text. By providing exclusivity, the law grants monopoly power to innovators. See *infra* note 23 and accompanying text. This Note operates under the assumption that society should correct the market failure inherent with information production. Thus, the government must grant a monopoly to innovators so that society can benefit from innovation. However, monopolies are inefficient and, as such, reduce social welfare. See *infra* note 24 and accompanying text. Therefore, intellectual property regimes should seek to grant an exclusive right only to the degree required to insure innovation. A more extensive grant of monopoly power will further harm society in the way that all monopolies harm society, but will create no additional benefit in the way of valued innovation. Trade secret law more appropriately limits the monopoly granted innovators than do alternative forms of intellectual property protection, namely the patent scheme. See *infra* Part II.B. Therefore, focusing on trade secret law as a protectorate of intellectual property provides the exclusivity that innovators require yet limits the monopoly power granted so as to reduce to as small of a degree as possible the harmful effects of the monopoly granted. Trade secret law provides efficient results.

11. See Pace, *supra* note 6, at 435 ("By allowing companies to maintain the confidentiality of their valuable competitive information but permitting competitors to develop like information by proper means, the tort [of misappropriation of trade secrets] strikes a crucial balance between

Legal protection of intellectual property is absolutely necessary.<sup>12</sup> This result becomes clear when we consider the choice facing innovators if the law did not provide protection for intellectual property.<sup>13</sup> Without possible legal protection, benefits accruing to innovators from information developed after extensive expenditures would continue only as long as innovators could keep this information secret.<sup>14</sup> Once the information became public, competitors would begin to sell products, which use or embody the innovation, that would compete with those developed by the original innovator.<sup>15</sup> Because the competitors would not have incurred the substantial costs associated with developing the innovation, those competitors would charge lower prices than would the original innovator.<sup>16</sup> Thus, the original innovator would be quickly priced out of the market.<sup>17</sup> Faced with such a legal regime, innovators would expect fewer benefits from new innovations than they expect under the existing regime because of the additional suppliers infused into the market. Also, innovators would expect to incur higher costs attempting to maintain secrecy than they currently expect.<sup>18</sup> Rational actors would be deterred from developing

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encouraging each individual business to develop valuable new uses of information, and not unduly discouraging the business' competitors from likewise developing valuable uses.”).

12. *Id.*

13. See generally ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 12-20 (2d ed. 2000) (noting competing justifications for intellectual property yet concluding that “intellectual property in the United States is fundamentally about incentives to invent and create” and making clear the import behind intellectual property by discussing choices facing innovators were there no legal protection for intellectual property).

14. *Id.* at 13 (noting that, absent intellectual property protection, an innovator “will reap a reward from that idea only to the extent that her competitors don’t find out about it.”).

15. Lichtman, *supra* note 2, at 701 (“Without intellectual property protection [a world where information is available for public use as soon as the information is revealed], an innovator would bring a new idea to market only to find that his competitors would quickly have their own version of that same idea.”).

16. MERGES, *supra* note 13, at 12-20 (identifying that, once information becomes public, “it will prove virtually impossible to charge for information over the medium run.”); Gordon L. Doerfer, *The Limits on Trade Secret Law Imposed by Federal Patent and Antitrust Supremacy*, 80 HARV. L. REV. 1432, 1451 (1967) (“If the innovation is available simultaneously to the innovator and his competitors, the innovator will be unable to recover any of the costs of innovation because the competitor’s price will be determined on a basis which does not have to take these development costs into account.”).

17. MERGES, *supra* note 13, at 13-14 (“Competition will drive the price of the book toward its marginal cost . . . In such a competitive market, the author will be unable to recoup the cost of writing the book.”) (considering a problem common to all forms of intellectual property in the context of copyrights); Doerfer, *supra* note 16, at 1451.

18. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 485-86 (1974) (discussing the effect on innovators were trade secret protection no longer available to avoid losing a trade secret to a “faithless employee” and identifying that “inventive” efforts would decrease, innovators would be forced to institute enhanced security precautions, and “organized scientific and technological research could become fragmented, and society, as a whole, would suffer.”).

information at the rate it is currently developed.<sup>19</sup> Thus, the problem necessitating the law's provision of additional protection is a lack of natural exclusivity.<sup>20</sup> Without the ability to exclude free-riders from profiting from one's idea, innovators cannot recoup experimentation costs to the extent necessary to justify the decision to innovate.<sup>21</sup>

Granting exclusivity to intellectual property through a legal regime, although necessary to allow for innovation, presents problems.<sup>22</sup> By precluding potential competitors from entering a market, government protection of ideas creates a state-sponsored monopoly regardless of the method of protection.<sup>23</sup> Because

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19. *Id.*; MERGES, *supra* note 13, at 14 (noting that, were competition to work as described, "authors may be expected to leave the profession in droves, since they cannot make any money at it. The result, according to economic theory, is an underproduction of books and of other words of invention and creation with similar public goods characteristics."); Lichtman, *supra* note 2, at 702 ("Knowing this [that competitors would be able to obtain the original ideas without incurring significant development costs], few would want to be innovators, preferring instead to wait and free-ride on someone else's good idea.").

20. Doerfer, *supra* note 16, at 1451 (noting that an innovation which (1) is "available simultaneously to the innovator and his competitors" and (2) "require[s] investment above and beyond the ordinary investment needed to exploit the innovation . . . will be subject to appropriation and hence discouraged").

21. *Id.*; Pamela Samuelson, *Privacy as Intellectual Property*, 52 STAN. L. REV. 1125, 1140 (2000) ("[W]ithout a legal protection system, creators will find it difficult to exclude free-riders from appropriating the fruits of their labor and selling identical or very similar products in the marketplace at a cheaper price.").

22. Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 996 ("Granting authors and inventors the right to exclude others from using their ideas, necessarily limits the diffusion of those ideas and so prevents people from benefiting from them."); Lichtman, *supra* note 28, at 708 (noting that "monopolies engender societal waste" because "monopolists earn producer surplus by restricting output and raising prices").

23. By monopoly, I do not mean the absolute monopoly of one seller in a given market. Instead, I reference a monopoly to describe any entity that wields monopoly power, however slight the power. See, e.g., *Eldred v. Ashcroft*, 537 U.S. 186, 190 (2003) (characterizing the federal copyright scheme as creating a monopoly over the copyrighted work); *Bonito Boats, Inc. v. Thunder Craft Boats*, 489 U.S. 141, 141 (1989) (characterizing the federal patent scheme as creating a monopoly over the patented work); *Kewanee Oil Co.*, 416 U.S. at 474 (characterizing state law trade secret protection as creating a monopoly over the work protected as a trade secret); Lichtman, *supra* note 2, at 704 ("A patent creates a simple monopoly."). But see John S. Leibovitz, Note, *Inventing a Nonexclusive Patent System*, 111 YALE L.J. 2251, 2262-63 (2002) (noting the argument that some scholars equate "exclusivity in the patent domain with the (undesirable) textbook case of monopoly from Economics 101" but ultimately concluding that the monopoly still exists to a degree); Edmund W. Kitch, *Elementary and Persistent Errors in the Economic Analysis of Intellectual Property*, 53 VAND. L. REV. 1727, 1729-38 (2000) (arguing that legal scholarship prematurely considers all intellectual property rights as monopolies). To Professor Kitch, an intellectual property right is an exclusive property right yet not necessarily a monopoly. *Id.* at 1731. Exclusive property rights only amount to monopolies if the right is extremely broad. *Id.* If fully extended, Professor Kitch's conclusion means that granting intellectual property rights does not necessarily cause harm to society. See *id.* (noting that most intellectual property rights, at least those that do not establish a monopoly, do not force society to incur the "social welfare costs associated with monopoly"); POSNER, *supra* note 3, at 301-05 (discussing the economic consequences of a monopoly). However, an exclusive right to use an

idea necessarily establishes a monopoly in the production of that idea and, consequently, decreases social welfare. See *id.* at 299 (“An important example of impeded entry is the governmentally protected monopoly—for example, a *patent* monopoly”) (emphasis added).

Professor Kitch’s conclusion rests largely on the notion that intellectual property law typically protects a narrow idea the value of which can be recognized only if the idea is embodied in some product. See Kitch, *supra*, at 1730, 1734 (noting (1) that a patent right is “most plausibly characterized as a monopoly” but that such a characterization is accurate only “if the claims cover all of an economically relevant market . . .” and (2) that the market that must be considered for purposes of determining whether or not the market is monopolistic cannot be the market for intellectual property right itself because there is no market for the right, only one such right exists). The idea itself is not sold to consumers directly. *Id.* at 1734. Professor Kitch contends that competing products typically perform functions quite similar to that performed by the product embodying the protected idea. *Id.* (“Even here [in a market for a good whose economically distinctive features fell within the claims of the patent], the patent may not confer an advantage if alternative . . . technologies are available at lower cost . . .”). Because the intellectual property right cannot bar competition of this sort, Professor Kitch contends that most intellectual property rights do not grant monopolies. *Id.*

If Professor Kitch is correct, the intellectual property laws would, in all instances in which the exclusive right granted is too narrow to grant any monopolistic power to the innovator, provide essentially no incentives to such innovators. See Lemley, *supra* note 22, at 996 (“In economic terms, intellectual property rights prevent competition in the sale of the particular work or invention covered by the intellectual property right, and therefore allow the intellectual property owner to raise the price of that work above the marginal cost if reproducing it.”). The essential characteristic of a monopoly is the ability of the producer to charge a price for her product above the marginal cost to producing such a product. See, e.g., POSNER, *supra* note 3, at 297 (discussing typical monopolistic market supply and demand curve and noting, within the figure presented, that the monopolistic producer will charge a price above her marginal cost of producing the product). If there is no monopoly, the producer, by definition, does not have this ability. *Id.* at 298 (noting that competition makes a monopoly price, defined as a price above marginal cost, “untenable”). If innovators cannot charge prices for products that embody protected ideas that are above the marginal costs to producing such ideas, innovators cannot recoup costs expended to develop the idea. See Lichtman, *supra* note 2, at 700-01 (noting that society needs intellectual property protection because of the existence of “development costs,” which Professor Lichtman defines as “all costs incurred in the production of an original innovation that are neither repeated by the innovator in the production of a later copy nor repeated by a competitor in the production of his first copy”). Thus, if Professor Kitch is correct, intellectual property laws do not serve the function that traditionally justifies their existence. *E.g., id.* Granting a monopoly is the only way that innovators can recoup their development costs. *Id.* at 701.

Further, Professor Kitch’s conclusion that intellectual property protection may not grant a monopoly in any given product market negates the existence of markets for inputs to products. Intellectual property laws necessarily grant some measure of an exclusive right to use an idea. See Kitch, *supra* note 23, at 1729-30 (noting that “an intellectual property right, like all property rights, is an exclusive right which enables the owner to exclude others from the use of the subject matter of the right”). There is a market for this ability—the ability to use an idea. The law grants a complete monopoly in this market. The decrease in social welfare resulting from this grant of monopoly power is that which should concern most commentators. Because of this monopoly, intellectual property rights must be limited.

Even assuming arguendo that the only relevant market is the final product market, Professor Kitch’s concern relates to the extent of a monopoly created but not the existence of such a monopoly. The absence of monopolistic power exists only in perfectly competitive markets, considered by most economists to be an aberration. The ability to differentiate one’s product in any way, including variation by way of ideas embodied in a product, grants producers the ability to generate a downward sloping demand curve. With such a demand curve, the producer charges

monopolistic markets do not benefit from competition, monopolists are able to charge higher prices at society's expense.<sup>24</sup> Complete exclusivity<sup>25</sup> is, in most instances, not required to provide sufficient incentives for innovators to develop ideas.<sup>26</sup>

Nonexclusive information,<sup>27</sup> while of decreased value compared to entirely unknown information, still retains significant value.<sup>28</sup> To use an example with which most are familiar, consider "one of the best-kept trade secrets in the world," the complete formula for Coca-Cola.<sup>29</sup> Most consumers of soft drinks understand that there is only one soft drink that tastes quite like Coca-Cola. This exclusivity makes the formula an extremely valuable asset.<sup>30</sup> Consider, however, the

a price above her marginal cost to producing such a product and, therefore, wields monopolistic power. The ability to charge a price above one's marginal costs leads to decreases in social welfare regardless of the extent of such power. Assuming that the only relevant market is this product market, the law's grant of monopolistic power should be limited to whatever extent possible.

Professor Kitch cannot plausibly conclude that intellectual property laws do not grant monopolistic power in any market. Where there is monopolistic power, there is reduced social welfare. Courts and commentators should strive to reduce such detrimental effects however possible.

24. ROBERT S. PINDYCK & DANIEL L. RUBINFELD, *MICROECONOMICS*, 354 (4th ed. 1998) (demonstrating that monopolies make society worse off); Lichtman, *supra*, note 2, at 708 (noting that "monopolies engender societal waste" because "monopolists earn producer surplus by restricting output and raising prices" and that "There is one significant drawback to using patent monopolies to reward innovation: Monopolies engender societal waste.").

25. By complete exclusivity, I mean the sole right to use a given idea. In this context, one without legal protection of intellectual property, complete exclusivity could be obtained only through absolute secrecy.

26. Stephen M. Maurer & Suzanne Scotchmer, *The Independent Invention Defence in Intellectual Property*, 69 *ECONOMICA* 535, 536 (2001) (noting that the patent law bar against independent discovery is unique within intellectual property schemes and contending that other schemes that protect one who has independently discovered an idea, like trade secret law, are more efficient); Michelle Armond, Comment, *Introducing the Defense of Independent Invention to Motions for Preliminary Injunctions in Patent Infringement Lawsuits*, 91 *CALIF. L. REV.* 117, 138-47 (2003) ("[T]here is a growing movement among legal and economic scholars towards increasing economic efficiency of the patent system by introducing a generalized independent invention defense to patent law."); Leibovitz, *supra* note 23, at 2268-81 (proposing that the patent regime protect multiple inventors, so long as each inventor can establish that she independently discovered the idea at issue and concluding that such a regime would be more efficient); Reichman, *supra* note 2, at 2439 (noting that the non-exclusive right granted by trade secret law "normally provide those who develop unpatented, noncopyrightable innovation with a period of natural lead-time in which to recover their investments . . .").

27. By nonexclusive information, I mean information that can be used by more than one entity; information that is not absolutely secret.

28. MERGES ET AL., *supra* note 13, at 13 ("Ideas and information can also be used by many without depleting the enjoyment of others.").

29. *Coca-Cola Bottling Co. of Shreveport, Inc. v. Coca-Cola Co.*, 107 F.R.D. 288, 289 (D.Del. 1985).

30. *Id.* at 294 ("As an indication of the value the Company places on its secret formulae [for Coca-Cola and all other beverages produced by the company], Keller [Coca-Cola's former Senior

effect on consumers if Pepsi Co., a leading competitor of Coca-Cola, were to obtain and begin producing a soft drink with the Coca-Cola formula.

Given the additional producer, purchasers would not be willing to pay the same price as they currently pay. Simple economics reveals that the price must decrease as additional suppliers enter the market. It seems unlikely, however, that consumers would no longer want, and therefore would refuse to pay a premium for, a soft drink having the Coca-Cola formula simply because there are two producers of such a product. Given that consumers would still purchase both the Coca-Cola and the Pepsi product and that consumers would pay somewhat of a premium for either, both producers would likely recoup the costs incurred in developing the soft drink. Thus, the economic environment provides for the innovation, the soft drink formula is created, yet the environment still allows consumers to avoid some of the monopolistic rents they would face were there only one soft drink producer with the Coca-Cola formula.<sup>31</sup>

In sum, complete exclusivity with regard to information is not justified because information retains substantial value with incomplete exclusivity and complete exclusivity creates an unnecessarily broad monopoly. The appropriate extent of exclusivity, an efficient amount of exclusivity, establishes a monopoly only to the extent that the monopoly is needed to insure that the idea will be developed.<sup>32</sup> Beyond that efficient level of exclusivity, the law creates

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Vice President and General Counsel] avers that the Company elected to forego producing Coca-Cola in India, a potential market of 550 million persons, because the Indian government required the Company to disclose the secret formula for Coca-Cola as a condition of doing business there.”).

31. While not explicit in this discussion of the general economics of intellectual property, benefits accruing to society by way of the wide dissemination of ideas also cut in favor of limiting the exclusivity granted by the intellectual property regime. *E.g.*, Lemley, *supra* note 22, at 996.

32. See Lichtman, *supra* note 2, at 701-03 (proposing a model intellectual property regime providing protection that, at a minimum, allows innovators to recoup development costs, but ultimately concluding that an effective intellectual property regime may provide more compensation to innovators). Professor Lichtman argues that development costs only represent the minimum level of protection, not the efficient level of protection, because development costs, as defined by Professor Lichtman, do not include “risks of innovation” and because products with similar development costs will not necessarily be valued by society to the same degree. *Id.* Professor Lichtman contends that innovators must be compensated for these risks of innovation and must also be allowed to benefit from society’s value of the goods. *Id.* The costs to innovate as identified in this Note do include the risks of innovation. Thus, development costs to Professor Lichtman and costs to innovate discussed in this Note both include the cost associated with potential failure (either because the development is impossible or because the market does not value the good).

However, Professor Lichtman, in proposing a model scheme that provides enhanced compensation to innovators of ideas with higher societal values ignores a substantial problem of intellectual property protection. *Id.* Once the development costs of a given idea are recovered,

a monopoly where monopoly is unwarranted and thereby restricts competition and the efficient allocation of resources.<sup>33</sup> The law must provide only limited exclusivity to information.

### A. Ideas Protected Through the Patent Scheme

Currently, the law grants exclusivity to innovators in various ways. For purposes of this discussion of trade secret law, the most relevant methods of legal protection are state trade secret law and the federal patent regime.<sup>34</sup> Patent law provides a chronologically limited yet otherwise absolute right to exclude others from use of the patented information.<sup>35</sup> Information protected by patent law cannot be used by anyone for twenty years except under the authority of the patent holder.<sup>36</sup> This period of exclusivity provides the innovator with a limited timeframe during which she can charge monopolistic prices in hopes of recouping the cost of developing the patented information.<sup>37</sup> Following the twenty years, the information previously patented is

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an efficient intellectual property regime must eliminate protection. The innovator will develop the product so long as she can recoup her development costs adjusted for the risks of failure. Once armed with the idea, society is best off if the idea can be disseminated without limit.

Consider the effects if intellectual property laws only protected pharmaceuticals to the extent necessary to recover the innovator's development costs. The drug would still be created but more members of society would be able to benefit from the drug because, once the idea is disseminated, the cost of the drug would be substantially lower.

33. See POSNER, *supra* note 3, at 44 (noting that patent law may very well induce "excessive investment in inventing").

34. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 475-93 (1974) (contending with the notion that federal patent law, not copyright or trademark law, may preempt state trade secret law because of the similarities between the federal patent regime and state trade secret law and concluding that state trade secret law appropriately supplements the protection afforded under the federal patent regime by increasing the choices that innovators may rely on to find legal protection for their invention); Friedman et al., *supra* note 9, at 62-66 (discussing the choices facing innovators and comparing the protection granted the innovator under both patent and trade secret law; notably not discussing either copyright or trademark law); Thornton Robison, *The Confidence Game: An Approach to the Law About Trade Secrets*, 25 ARIZ. L. REV. 347, 349 (1983) ("In the United States, there are two sorts of information which are protected by law against free use: information which is patented and information which is given the legal label, 'trade secret.'"); Paul Heald, *Federal Intellectual Property Law and the Economics of Preemption*, 76 IOWA L. REV. 959, 979 (1991) ("In effect, trade secret law seems to be a small-scale version of patent law.").

35. Robison, *supra* note 34, at 350 ("A patent, then is entirely a creation of that body of law which allows and enforces a legal monopoly on certain information for a certain time.").

36. 35 U.S.C. § 154(a)(2) (2000); *Kewanee*, 416 U.S. at 480 ("The patent laws promote this progress [of science] by offering a right of exclusion for a limited period as an incentive to inventors to risk the often enormous costs in terms of time, research, and development.").

37. *Kewanee*, 416 U.S. at 480; *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 186-87 (1933) ("An exclusive enjoyment is guaranteed him . . . but upon the expiration of that period, the knowledge of the invention enures to the people, who are thus enabled without restriction to practice it and profit by its use.").

revealed to the world.<sup>38</sup> The complete exclusivity granted for these twenty years insulates the innovator from any attempts to develop the patented information.<sup>39</sup> Effectively, the innovator avoids any and all competition for the length of the patent term.<sup>40</sup> Once the patent expires, competition works to eliminate the exorbitant economic rents granted the patent holder and widely disseminates the once-protected idea.<sup>41</sup>

A significant problem with the patent regime is that the exclusive right it creates lasts for twenty years regardless of the market for the patented idea.<sup>42</sup> In other words, the most valuable idea, under the patent scheme, obtains the same extent of protection as a substantially less valuable idea.<sup>43</sup> The market has no role in limiting the exclusive right granted to the patent holder during the patent term.<sup>44</sup> Trade secret protection leads to more efficient results because it allows market forces to limit the law's protection.

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38. *Kewanee*, 416 U.S. at 480 ("In return for the right of exclusion . . . the patent laws impose upon the inventor a requirement of disclosure."); *Dubilier Condenser Corp.*, 289 U.S. at 186-87.

39. *Kewanee*, 416 U.S. at 490 ("While trade secret law does not forbid the discovery of the trade secret by fair and honest means, e.g., independent creation or reverse engineering, patent law operates 'against the world,' forbidding any use of the invention for whatever purpose for a significant length of time.")

40. *Id.*

41. *Kewanee*, 416 U.S. at 480 ("In return for the right of exclusion . . . the patent laws impose upon the inventor a requirement of disclosure."); *Dubilier Condenser Corp.*, 289 U.S. at 186-87.

42. 35 U.S.C. § 154(a)(2) (2000) ("[S]uch grant (the grant of a patent) shall be for a term beginning on the date on which the patent issues and ending 20 years from the date on which the application for the patent was filed . . ."); *Kewanee*, 416 U.S. at 480; Maurer & Scotchmer, *supra* note 25, at 536 (proposing that courts recognize independent invention as a defense to some forms of patent infringement and noting that this scheme addresses a significant criticism of the patent scheme, that "if the value of the invention is very large relative to R&D cost, the inventor may be over rewarded, and deadweight loss may be unnecessarily high.")

43. The more valuable patents to an innovator are likely the costliest patents to consumers. The most valuable patent is that which allows the owner of such patent to charge a price for the product encompassing the protected idea that is above the marginal cost of producing the product encompassing the protected idea; that which grants the patent holder a more substantial monopoly. As the extent of a monopoly increases, the extent to which the monopolist erodes consumer surplus increases. See Lichtman, *supra* note 2, at 708-09. Professor Lichtman appropriately concludes that a patent's value is also determined by the extent to which consumers are interested in the product. *Id.* at 707-08 ("A final advantage to the patent system is that it encourages only worthwhile innovation."). In this way, the market does determine the value of a given patent. *Id.* However, the patent law provides the same extent of protection to an extremely potent patent as it does an impotent patent. See U.S.C. § 154(a)(2) (2000). Thus, the patent holder's legal right is insulated from market competition and is identical regardless of the social value of the patent.

44. See U.S.C. § 154(a)(2); Maurer & Scotchmer, *supra* note 25, at 536. Many commentators make the closely related point that the patent laws may lead to inefficient results because the patent right is granted to the first to develop the patent, not necessarily the best

*B. Ideas Protected as Trade Secrets and the Uniquely Efficient Nature of Such Protection*

Trade secret law enhances exclusivity and thereby increases innovation by supplanting the precautions that an innovator must take to guard the secrecy of her information.<sup>45</sup> Therefore, innovators, when deciding whether or not to innovate, consider the benefits of the information without being forced to consider the costs of maintaining secrecy, costs that would be necessary to consider were the law not to provide such protection.<sup>46</sup> Interestingly, however, the law protects the innovator only if the information at issue has been obtained from the innovator by means that the law considers to be misappropriation.<sup>47</sup> Here, the law introduces market competition as limiting the protection granted.<sup>48</sup>

Competing innovators can obtain the benefit of the information if they so choose. This insures that the trade secret owner does not achieve a completely exclusive right.<sup>49</sup> Competitors will seek to obtain the type of information that grants the original innovator the most

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user of the patented idea. See, e.g., Reichman, *supra* note 3, at 2446-47 (proposing a new scheme of protection for ideas that includes "prefabricated licensing provisions" in hopes to insure that the patent right gravitates to its highest valued user). Trade secret law, because it does not grant complete exclusivity but rather allows multiple users of the same idea, avoids this significant problem of patent law.

45. Pace, *supra* note 6, at 440-41 ("This [trade secret protection] decreases the amount of resources the corporation must spend on precautionary measures, thereby increasing the amount of resources available to the corporation for innovation, the profitability of innovations, and the overall investment in innovation.").

46. *Id.*; see *infra* notes 65-69. But see *Rockwell Graphic Sys., Inc. v. DEV Indus., Inc.*, 925 F.2d 174, 180 (7th Cir. 1991) (Posner, J.) (suggesting that an innovator must take precautions up to the point at which the additional value of precautions equals the cost of such precautions).

47. *Kewanee*, 416 U.S. at 489-90 (noting that trade secret protection is weaker than patent protection because "trade secret law does not forbid the discovery of the trade secret by fair and honest means, e.g., independent creation or reverse engineering . . ."); *E.I. duPont de Nemours & Co. v. Christopher*, 431 F.2d 1012, 1015 (5th Cir. 1970) ("One may use his competitor's secret process if he discovers the process by reverse engineering applied to the finished product; one may use a competitor's process if he discovers it by his own independent research . . ."); *Chiappetta*, *supra* note 2, at 78 ("The most important proper means [of appropriating a trade secret] are: independent creation, reverse engineering . . . and acquisition from public sources.").

48. POSNER, *supra* note 3, at 45-46 ("In effect, competition is substituted for patent law's proof requirements and durational limitation as a check on excessive investment in maintaining or in unmasking trade secrets."); *Doerfer*, *supra* note 16, at 1450 ("Still, existing contours of trade secret law put sharp limits on the power of a trade secret proprietor to exclude competition from the market. Even though those contours may not have developed as a response to the dangers of monopoly, they considerably soften the potential monopolistic consequences of an exclusionary power.").

49. *Friedman et al.*, *supra* note 9, at 66-70 (noting that trade secret protection is limited by the sorts of proper means by which one can acquire information and justifying this limitation through economic analysis).

substantial economic rents. The type of information that competitors will seek to obtain is that which grants the original innovator the most substantial value. Thus, competing innovators will focus on the information for which consumers are forced to pay the most exorbitant prices, the ideas that have markets most in need of the cost-reducing effects of competition.

During the time that it takes competitors to obtain the information, the original innovator can recoup the costs of research and development by charging a price above marginal cost, a monopoly price.<sup>50</sup> To recoup such costs, the innovator must be able to determine the length of time it would take for competitors to obtain the information. Only if the original innovator can determine the length of time during which she can effectively charge a monopolistic price will she be able to price her idea so as to recoup the costs of development.

The law can protect multiple owners of the same trade secret.<sup>51</sup> Thus, both the original innovator and successive innovators will be able to recoup development costs until the information protected as a trade secret is generally known throughout the industry. Once the information is generally known, it has virtually no value as an innovation, so consumers pay the lower prices associated with a thoroughly competitive market.

This discussion of trade secret law reveals that the exclusivity it grants and the method for limiting this exclusivity lead to substantially efficient results. Courts and commentators fail to recognize the efficient nature of trade secret law. Consequently, commentators argue for and courts implement alterations in trade secret law that upset the efficient balance. In altering the requirements of trade secret protection beyond that presented in the

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50. Reichman, *supra* note 2, at 2521 ("First and foremost, reverse engineering provides originators with an indispensable period of natural lead time in which to recoup their initial investment and to establish footholds in the market."). Professor Reichman ultimately concludes that the lead-time provided by trade secret law is insufficient, particularly with regard to recent innovation, because of the ease with which such innovation can be reverse engineered. *Id.* at 2517 ("An innovative but unpatentable product of the new technologies thus tends to bear its know-how on its face. The innovator consequently risks becoming as vulnerable to rapid appropriation by second comers as the author of any published literary or artistic work."). Through this analysis, Professor Reichman negates the possibility that the original innovator may be able to recoup her costs given a short lead-time by raising the price she charges for the product embodying the protected idea. *See infra* notes 121-127.

51. Armond, *supra* note 26, at 156-57 ("[M]ultiple parties may be the legal owners of the same trade secret."); *see* Leibovitz, *supra* note 23, at 2267-81 & n.50 (proposing that the patent regime protect multiple inventors of the same idea and equating the proposal with a trade secret regime in which the innovator has "a right against reverse engineering," thereby revealing by inference that trade secret law protects multiple innovators).

following section, courts frustrate the efficiency created by the basic elements of trade secret law.

### III. CURRENT LEGAL ENVIRONMENT FOR TRADE SECRETS

The tort of misappropriation of trade secrets, the legal mechanism through which courts protect trade secrets, remains a state law phenomenon.<sup>52</sup> As such, there is no nationally recognized definition of the elements required to obtain protection.<sup>53</sup> However, the influence of the Uniform Trade Secrets Act (UTSA), the Restatement (Third) of Unfair Competition, and, most prominently, the first Restatement of Torts has led to a substantial amount of consistent treatment.<sup>54</sup> From these three sources, one can glean the general elements necessary to invoke court-sponsored protection of trade secrets: (1) the trade secret must be of a certain broadly

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52. See, e.g., *Kewanee Oil Co. v. Bicon Corp.*, 416 U.S. 470, 474 (1974) (applying Ohio trade secret law and holding that the federal patent scheme does not preempt state trade secret law); *Bone*, *supra* note 2, at 247 ("Since its emergence in the middle of the nineteenth century, trade secret law has developed primarily as a creature of state common law."); William E. Hilton, *What Sort of Improper Conduct Constitutes Misappropriation of a Trade Secret*, 30 IDEA 287 (1990) ("The law of trade secrets is a creature of state common law.").

53. See, e.g., *Bone*, *supra* note 2, at 247 (conceding that "trade secret doctrine varies from state to state," but concluding that "the general rules" are similar); *Pace*, *supra* note 6, at 429 (noting that "state laws on misappropriation of trade secrets differ in important respects," but concluding that all states have developed the law relying on "one or both of two similar models"). Some commentators call for federal trade secret schemes to combat the problems created by state incongruity. E.g., *Pace*, *supra* note 6, at 446 ("[I]t is clear that uniformity deserves precedence over state autonomy and experimentation. The primary justification for this preference arises out of the free-flowing nature of information and the resulting havoc this creates for the trade secret owner trying to determine in which state its secret will, or may, be misappropriated."); Comment, *Theft of Trade Secrets: The Need for a Statutory Solution*, 120 U. PA. L. REV. 378, 379 (1971) (arguing that state law is a "confused body" of law that has been "overworked" and describing differing state by state treatment).

54. See RESTATEMENT OF TORTS § 757 (1939); UNIF. TRADE SECRETS ACT, 14 U.L.A. 433 (1985); RESTATEMENT (THIRD) OF UNFAIR COMPETITION §§ 39-43 (1993); *Bone*, *supra* note 2, at 247 ("Although trade secret doctrine varies from state to state, the general rules are substantially similar in all jurisdictions."); *Pace*, *supra* note 6, at 429 ("While state laws on misappropriation of trade secrets differ in important respects . . . all are fashioned after one or both of two similar models: the Restatement of Torts Section 757 and the Uniform Trade Secrets Act."); David W. Slaby et al., *Trade Secret Protection: An Analysis of the Concept 'Efforts Reasonable Under the Circumstances to Maintain Secrecy'*, 5 SANTA CLARA COMPUTER & HIGH TECH. L.J. 321, 323 (1989) (noting that elements do vary slightly from state to state but observing the "generally required" elements to establish trade secret protection); *Wiesner & Cava*, *supra* note 4, at 1078 ("The elements of the action [misappropriation of trade secrets] are fairly well acknowledged."). Courts consistently cite either the Restatement of Torts or a state's enacted version of the UTSA. See, e.g., *Anaconda Co. v. Metric Tool & Die Co.*, 485 F. Supp. 410, 421 (E.D. Pa. 1980) (applying Pennsylvania law and citing the Restatement of Torts); *Weigh Sys. South, Inc. v. Mark's Scales & Equipment, Inc.*, 68 S.W.3d 299, 301 (Ark. 2002) (applying Arkansas' version of the UTSA); *Aries Info. Sys., Inc. v. Pacific Mgmt. Sys. Corp.*, 366 N.W.2d 366, 368 (Minn. Ct. App. 1985) (applying Minnesota's version of the UTSA).

characterized subject matter; (2) the trade secret must be secret; and (3) the trade secret must be misappropriated.<sup>55</sup>

Trade secret law can protect almost any sort of information imaginable so long as the information has some competitive value.<sup>56</sup> A commentator recently noted that courts have protected the following as trade secrets: “engineering information, formulae, customer information, sources for raw materials, processes, design manuals, operating and pricing policies, market research studies, machinery, computer software, and designs drawings and blueprints.”<sup>57</sup> In fact, it is the breadth of information that trade secret law can potentially protect that both helped convince the Supreme Court, in *Kewanee*, that the federal patent scheme does not preempt trade secret law, and that made trade secret protection, as opposed to patent protection, more desired by business managers.<sup>58</sup>

“The essential characteristic of a trade secret [is] . . . secrecy.”<sup>59</sup> Although canonical trade secret law considers any information that is not generally known as sufficiently secret, courts have considerable

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55. See RESTATEMENT OF TORTS § 757 (1939); UNIF. TRADE SECRETS ACT, 14 U.L.A. 437-38 (1985); RESTATEMENT (THIRD) OF UNFAIR COMPETITION §§ 39-43 (1993).

56. See *Ex parte* Miltope Corp., 823 So. 2d 640, 644 (Ala. 2001) (applying Alabama’s version of the UTSA); *Home Pride Foods, Inc. v. Johnson*, 634 N.W.2d 774, 781 (Neb. 2001) (applying Nebraska’s version of the UTSA); *A.M. Skier Agency, Inc. v. Gold*, 747 A.2d 936, 940 (Pa. Super. Ct. 2000) (demanding a showing of value to provide protection of information as a trade secret); RESTATEMENT OF TORTS § 757 cmt. b (1939) (“A trade secret may consist of any formula, pattern, or compilation of information which is used in one’s business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it.”); UNIF. TRADE SECRETS ACT, 14 U.L.A. 438 (1985) (“Trade secret means information . . . that (i) derives 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”); RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 cmt. e (1993) (“A trade secret must be of sufficient value in the operation of a business or other enterprise to provide an actual or potential economic advantage over others who do not possess the information.”); *Epstein & Levy, supra* note 6, at 892-93 (noting that “the list of matters that courts have upheld as valid trade secrets is extensive.”); *Comment, supra* note 53, at 381 (“Generally, a trade secret is any information of commercial value, not protected by patent, and not generally known or accessible.”).

57. *Epstein & Levy, supra* note 6, at 893 & nn.41-51.

58. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 482-84 (1974) (recognizing that the breadth of subject matter protected under trade secret law “encourages businesses to initiate new and individualized plans of operation, and constructive competition results,” thereby, in part, justifying the Court’s conclusion that the federal patent scheme not preempt state trade secret law); *Comment, supra* note 53, at 379 (identifying patent law’s limited applicability and noting that “industry has turned increasingly to whatever protection it can find under trade secret law”).

59. *J.T. Healy & Son, Inc. v. James A. Murphy & Son, Inc.*, 260 N.E.2d 723, 730 (Mass. 1970).

difficulty applying this element.<sup>60</sup> Many courts consider six factors when determining whether information claimed to be a trade secret has an appropriate degree of secrecy:

(1) the extent to which the information is known outside of his (the owner of the information) business; (2) the extent to which it is known by employees and others involved in his business; (3) the extent of measures taken by him to guard the secrecy of the information; (4) the value of the information to him and to his competitors; (5) the amount of effort or money expended by him in developing the information; (6) the ease or difficulty with which the information could be properly acquired or duplicated by others.<sup>61</sup>

Courts and commentators consider the third factor most important: "the extent of measures taken . . . to guard the secrecy of the information."<sup>62</sup> In certain circumstances, discussed further below,<sup>63</sup> the undue emphasis placed on this factor interferes with the efficient nature of trade secret protection.<sup>64</sup> Even without regard for the reasonable precautions factor, trade secret protection will often hinge on the extent to which the information at issue is secret.

Trade secret law only protects information against uses or takings that the law considers unacceptable, i.e., against misappropriations.<sup>65</sup> Typically, misappropriation comes in the form of

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60. See, e.g., Slaby, *supra* note 54, at 323 ("Secrecy is an illusive and critical requirement for the trade secret owner.").

61. RESTATEMENT OF TORTS § 757 cmt. b (1939); see, e.g., Jet Spray Cooler, Inc. v. Crampton, 282 N.E.2d 921, 925 (Mass. 1972) (citing the Restatement of Torts and these factors); B.C. Ziegler and Co. v. Ehren, 414 N.W.2d 48, 51 (Wis. Ct. App. 1987) (same).

62. RESTATEMENT OF TORTS § 757 cmt. b (1939); see, e.g., Wheelabrator Corp. v. Fogle, 317 F. Supp. 633, 637, 639 (W.D. La. 1970) (applying Louisiana law before Louisiana adopted its version of the UTSA, citing the Restatement factors, and denying trade secret protection because Wheelabrator has not taken reasonable precautions to protect the secrecy of this information) ("Wheelabrator's lack of precaution renders it undeserving of the equitable protection it now seeks"); Junkunc v. S.J. Advanced Tech. & Mfg. Corp., 498 N.E.2d 1179, 1183 (Ill. App. Ct. 1986) (citing the Restatement factors and noting that "the extent of the measures that the alleged owner takes to guard the secrecy of the information is determinative of whether it is a trade secret."); Klitzke, *supra* note 7, at 563 ("In a trade secret case, the plaintiff's efforts to maintain secrecy are critical to trade secret status."); cf. UNIF. TRADE SECRETS ACT, 14 U.L.A. 438 (1985) (considering the extent of reasonable precautions as a distinct element—one demanded in addition to secrecy); Secure Svs. Tech. Inc. v. Time & Space Processing, Inc., 722 F. Supp. 1354, 1361-62 (E.D. Va. 1989) (applying California's version of the UTSA and denying trade secret protection to plaintiff because it failed to take reasonable precautions to maintain secrecy); Sheets v. Yamaha Motors Corp., 657 F. Supp. 319, 326-27 (E.D. La. 1987) (applying Louisiana's version of the UTSA and demanding that there be reasonable precautions taken to insure secrecy in addition to requiring that the information be secret).

63. See *infra* note 137 and accompanying text.

64. Succinctly put for purposes of this introduction to trade secret law, undue emphasis given to the reasonable precautions requirement demands that innovators focus their efforts on taking precautions rather than on further innovation of new ideas.

65. See generally RESTATEMENT OF TORTS § 757 (1939) (providing some guidance as to actionable misappropriation); UNIF. TRADE SECRETS ACT, 14 U.L.A. 437-38 (defining both

a breach of a confidential relationship.<sup>66</sup> However, as made clear in *E.I. duPont deNemours & Co. v. Christopher*, trade secret law does protect against more than breaches of confidential relationships.<sup>67</sup> The law protects against appropriation of a trade secret by any means courts consider improper.<sup>68</sup> While courts' definitions of "improper" may vary considerably, the element guarantees that courts will not hold liable one who obtains information sought to be protected as a trade secret by either an independent discovery or by reverse engineering.<sup>69</sup> The efficient protection of trade secret law demands that more courts follow the precedent laid down in *Christopher*; courts must broadly define misappropriation to encompass any method not

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improper means and misappropriation); RESTATEMENT (THIRD) OF UNFAIR COMPETITION §§ 40-43 (1939) (defining both improper means and misappropriation).

66. See RESTATEMENT OF TORTS § 757(a)-(b) (1939); RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 40(a)-(b) (1939); UNIF. TRADE SECRETS ACT, 14 U.L.A. 438; see also, e.g., *E.I. Du Pont deNemours Powder Co. v. Masland*, 244 U.S. 100, 102 (1917) (Holmes, J.) ("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 . . ."); *American Can Co. v. Mansukhani*, 728 F.2d 818, 820 (7th Cir. 1982) (holding that the misappropriation element was satisfied because of a breach of a confidential relationship); *Smith v. Dravo Corp.*, 203 F.2d 369, 376 (7th Cir. 1953) (premising liability for misappropriation of trade secrets on a finding of an implied confidential relationship); Comment, *supra* note 53, at 383 ("Most of the cases have in fact involved employees and breach of confidential relationship, not theft."). Many courts contend that misappropriation may only come in the form of a physical trespass or a breach of a confidential relationship. See *infra* notes 164-165.

67. 431 F.2d 1012 (5th Cir. 1970).

68. *Id.* at 1014-15 (holding that misappropriation under Texas trade secret law constitutes not only the breach of a confidential relationship but also the improper discovery of information); see *Ruckelhaus v. Monsanto Co.*, 467 U.S. 986, 1003-04 & n.9 (1984) (holding that a trade secret is property the taking of which must be compensated under the 5th Amendment and discrediting the import of Justice Holmes' comment in *Masland*, see note 66, thereby making clear that trade secret law protects against more than the breach of confidential relationships); *Hilton*, *supra* note 52, at 292 ("As mentioned in these comments, the two most common defenses to an allegation of misappropriation are discovery by independent invention and discovery by reverse engineering.").

69. Reverse engineering is defined by the drafters of the Uniform Trade Secrets Act as "starting with the known product and working backward to find the method by which it was developed." UNIF. TRADE SECRETS ACT, 14 U.L.A. 438 (1985); *id.* at 438-39 ("Proper [non-actionable] means include: (1) discovery by independent invention; (2) discovery by 'reverse engineering' . . ."); see *Kewanee Oil Co. v. Bicon Corp.*, 416 U.S. 470, 476 (1974) ("A trade secret law, however, does not offer protection against discovery by fair and honest means, such as by independent invention, accidental disclosure, or by so-called reverse engineering, that is by starting with the known product and working backward to divine the process which aided in its development or manufacture."); *Chicago Lock Co. v. Fanberg*, 676 F.2d 400, 404 (9th Cir. 1982) ("It is well recognized that a trade secret does not offer protection against discovery by fair and honest means such as by independent invention, accidental disclosure, or by so-called reverse engineering, that is, starting with the known product and working backward to divine the process."); *Robison*, *supra* note 34, at 351 ("A trade secret, however, may be discovered by someone else, either as a result of independent research or of reverse engineering.").

appropriately considered either independent discovery or reverse engineering.

#### IV. WHAT SHOULD THE LAW BE?

To obtain trade secret protection, an innovator should need to establish only two elements: (1) that the information is sufficiently secret; and (2) that the defendant did not obtain the information by either independent discovery or reverse engineering.

As the focus of this Note is constructing state trade secret law so as to provide efficient incentives to innovators, the primary impetus behind the proposed alterations in the law must be to enhance efficiency. However, any alteration of state trade secret law must take into account the potential preemption of state law by the federal patent scheme.

"[S]tate regulation of intellectual property must yield to the extent that it clashes with the balance struck by Congress in our patent laws."<sup>70</sup> Before making this statement in *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, the Supreme Court had expressly recognized in *Kewanee* that state trade secret law was an appropriate supplement to federal patent protection.<sup>71</sup> The Court went on to affirm its *Kewanee* holding that the federal patent regime does not conflict with state trade secret law. But, the Court was faced with a scheme that, like trade secret law, protected an unpatentable idea.<sup>72</sup> Given *Kewanee* and its affirmation by the Court in *Bonito Boats*, one may naively conclude that state trade secret law cannot be modified in such a way as to be considered preempted by the federal patent regime. It seems more likely, however, that the Court, faithfully applying *Bonito Boats* and *Kewanee*, could conclude that trade secret law, if modified from its current form, could impermissibly conflict with federal law.<sup>73</sup>

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70. *Bonito Boats, Inc. v. Thunder Crafts Boats, Inc.*, 489 U.S. 141, 152 (1989).

71. *Kewanee*, 416 U.S. at 493 ("Until Congress takes affirmative action to the contrary, States should be free to grant protection to trade secrets.").

72. *Bonito Boats, Inc.*, 489 U.S. at 155-56 (discussing *Kewanee* and noting the aspects of the *Kewanee* decision that support the Court's reasoning in *Bonito Boats*).

73. *Id.* at 160 (holding that the Florida statute at issue was preempted by federal patent law, in part, because the law restricted the ability of competitors to reverse engineer boat hulls); *Kewanee*, 416 U.S. at 479 (defining the preemption question as whether Ohio trade secret law "stands as an obstacle to the accomplishment and execution of the full purposes and objective of Congress" (internal quotations omitted)); *Reingold v. Swiftships, Inc.*, 126 F.3d 645, 652 (5th Cir. 1997) (citing *Kewanee* for the proposition that "state trade secret law cannot bar reverse engineering or independent discovery" (emphasis added)); *Entertainment Research Group, Inc. v. Genesis Creative Group, Inc.*, 122 F.3d 1211, 1227 (9th Cir. 1997) ("In this regard, it is important to note that reverse engineering is perfectly legal in a product not protected by a patent.");

How do we draw the line between the permissible sort of protection at issue in *Kewanee*, the Ohio trade secret law, and the impermissible sort of protection at issue in *Bonito Boats*, a Florida statute ultimately prohibiting copying of boat hull designs? In *Bonito Boats*, the Court noted that “to a limited extent, the federal patent laws must determine not only what is protected, but also what is free for all to use.”<sup>74</sup> So, impermissible protection is that which substantially disrupts the balance, between what is and what is not protected, that is established by the federal scheme.<sup>75</sup> In concluding that trade secret law does not disrupt this balance, the Court found most important that trade secret law does not protect information in the public domain and that trade secret law provides substantially less protection than does patent law.<sup>76</sup> From this, we may conclude that (1) the federal patent laws virtually mandate that information within the public domain remain free to use and (2) federal patent law preempts any protection scheme that provides protection to the same degree that patent law provides protection.

Just below the surface of the Supreme Court’s intellectual property preemption jurisprudence is the notion that intellectual property laws cannot grant a property interest in information within the public domain.<sup>77</sup> The federal patent scheme protects only

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*Roboserve, Ltd. v. Tom’s Foods, Inc.*, 940 F.2d 1441, 1455 (11th Cir. 1991) (“As recently as 1989 [referring to *Bonito Boats*], the Supreme Court has noted that trade secret laws cannot be used to prohibit reverse engineering . . .”); Heald, *supra* note 34, at 969 (identifying consistencies in the Court’s treatment of federal preemption of state intellectual property laws through an economic analysis of the incentive structure created by the state law. If the state law provides incentives to an innovator that substantially alters the incentive scheme created by federal law, then the federal law preempts state law).

74. *Bonito Boats, Inc.*, 489 U.S. at 151.

75. *Id.* at 152 (“Thus our past decisions have made clear that state regulation of intellectual property must yield to the extent that it clashes with the balance struck by Congress in our patent laws.”); *Kewanee*, 416 U.S. at 479 (“The question of whether the trade secret law of Ohio is void under the Supremacy Clause involves a consideration of whether that law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress.” (internal quotations omitted)); Heald, *supra* note 34, at 967 (“Although the federal patent statute contains no express preemption clause, the Supreme Court has preempted state laws that actually conflict with the goals of federal patent protection and upset the balance established by Congress.”).

76. *Kewanee*, 416 U.S. at 484, 489-90.

77. *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225, 231 (1964) (“An unpatentable article, like an article on which the patent has expired, is in the public domain and may be made and sold by whoever chooses to do so.”); *Compco Corp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234, 237-38 (1964) (“Under the federal patent laws it (Day-Brite’s fixture protected by the state law at issue) is . . . in the public domain and can be copied in every detail by whoever pleases.”); *Kewanee*, 416 U.S. at 484 (announcing that the policy embodied in the federal patent laws demands, among other things, that “that matter once in the public domain must remain in the public domain” and concluding that state trade secret law, in part because it protects only information not within the public domain, is not incompatible with the federal patent scheme);

information that is novel and nonobvious.<sup>78</sup> These requirements insure that society incurs the costs of monopoly only for truly worthwhile or beneficial discoveries.<sup>79</sup> The Supreme Court has made clear that any state law frustrating this federal policy must be preempted.<sup>80</sup> As made clear in *Bonito Boats*, the Court in *Kewanee* must have considered the secrecy element vital to avoiding a frustration of federal policy.<sup>81</sup> Both traditional trade secret law and the modified version presented by this Note include a substantial secrecy element.<sup>82</sup>

Further, the federal balance struck in the patent laws demands that courts continue to recognize reverse engineering as an

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*Bonito Boats, Inc.* 489 U.S. at 151 ("State law protection for techniques and designs whose disclosure has already been induced by market rewards may conflict with the very purpose of the patent laws by decreasing the range of ideas available as the building blocks of further innovation.").

78. *Bonito Boats, Inc.*, 489 U.S. at 150-51 (identifying the elements to patentability and specifically noting that the "federal patent system thus embodies a carefully crafted bargain for encouraging the creation and disclosure of new, useful, and nonobvious advances in technology and design in return for the exclusive right to practice the invention for a period of years").

79. *Graham v. John Deere Co.*, 383 U.S. 1, 9 (1966) (concluding that Congress, in enacting the 1952 Patent Act which included a nonobviousness requirement, agreed with Thomas Jefferson that "only inventions and discoveries which furthered human knowledge, and were new and useful, justified the special inducement of a limited private monopoly"); *Bonito Boats, Inc.*, 489 U.S. at 147-48 (noting that Thomas Jefferson, the "driving force behind early federal patent policy," and who "played a large role in the drafting of our nation's second Patent Act," one that is "remarkably similar" to today's patent laws, "viewed a grant of patent rights in an idea already disclosed to the public as akin to an ex post facto law, obstruct[ing] others in the use of what they possessed before" (internal quotations omitted)); *id.* at 980 ("Both the novelty and nonobviousness requirements of federal patent law are grounded in the notion that concepts within the public grasp, or those so obvious that they readily could be, are the tools of creation available to all.").

80. *Bonito Boats, Inc.*, 489 U.S. at 151 ("State law protection for techniques and designs whose disclosure has already been induced by market rewards may conflict with the very purpose of the patent laws by decreasing the range of ideas available as the building blocks of further innovation."); *Kewanee*, 416 U.S. at 484.

81. *Bonito Boats, Inc.*, 489 U.S. at 155 (reaffirming *Kewanee* and noting factors critical to the Court's conclusion in that case, including the Court's recognition that "the public awareness of a trade secret is by definition limited"); *Kewanee*, 416 U.S. at 484 ("[T]he policy that matter once in the public domain must remain in the public domain is not incompatible with the existence of trade secret protection. By definition a trade secret has not been placed in the public domain").

82. *Kewanee*, 416 U.S. at 475 ("The subject of a trade secret must be secret, and must not be of public knowledge or of a general knowledge in the trade or business."); *J.T. Healy & Son, Inc. v. James A. Murphy & Son, Inc.*, 260 N.E.2d 723, 730 (Mass. 1970) (considering the essential aspect of a trade secret to be secrecy); RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 ("A trade secret is any information that can be used in the operation of a business or other enterprise and that is sufficiently valuable and secret to afford an actual or potential economic advantage over others"); UNIF. TRADE SECRETS ACT, 14 U.L.A. 438; RESTATEMENT OF TORTS § 757(a) ("trade secret may consist of any formula . . . which . . . gives him (the innovator) an opportunity to obtain an advantage over competitors who do not know or use it.")

appropriate method of obtaining an innovator's secret.<sup>83</sup> Reaching such a conclusion becomes clear when one conducts an economic analysis of the balance struck by the patent laws and the effect of state trade secret law on the incentives presented to innovators, an analysis that Professor Heald recognized as being crucial to identifying a consistent thread between the Supreme Court's intellectual property preemption jurisprudence.<sup>84</sup> If state law protected an innovator from losing her exclusive ownership right in an idea even if competitors discovered her idea through reverse engineering, innovators would be much more inclined to seek protection under state law than federal law.<sup>85</sup>

A rational innovator seeking to maximize her profit has two substantial considerations: (1) which scheme provides the most substantial protection; and (2) under which scheme is protection easiest to obtain. Given the elaborate procedures of the Patent and Trademark Office and the difficulty of establishing the elements of

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83. See *Bonito Boats, Inc.*, 489 U.S. at 160 (holding that the Florida statute at issue was preempted by federal patent law, in part, because the law restricted the ability of competitors to reverse engineer boat hulls); *Kewanee*, 470 U.S. at 479 (defining the preemption question as whether Ohio trade secret law "stands as an obstacle to the accomplishment and execution of the full purposes and objective of Congress" (internal quotations omitted)); *Reingold v. Swiftships, Inc.*, 126 F.3d 645, 652 (5th Cir. 1997) (citing *Kewanee* for the proposition that "state trade secret law cannot bar reverse engineering or independent discovery" (emphasis added)); *Entm't Research Group, Inc. v. Genesis Creative Group, Inc.*, 122 F.3d 1211, 1227 (9th Cir. 1997) ("In this regard, it is important to note that reverse engineering is perfectly legal in a product not protected by a patent."); *Roboserve, Ltd. v. Tom's Foods, Inc.*, 940 F.2d 1441, 1455 (11th Cir. 1991) ("As recently as 1989 [referring to *Bonito Boats*], the Supreme Court has noted that trade secret laws cannot be used to prohibit reverse engineering . . ."); Heald, *supra* note 34, at 969 (identifying consistencies in the Court's treatment of federal preemption of state intellectual property laws through an economic analysis of the incentive structure created by the state law. If the state law provides incentives to an innovator that substantially alters the incentive scheme created by federal law, then the federal law preempts state law); Pamela Samuelson & Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 111 YALE L.J. 1575, 1582-85 (2002) (presenting various legal arguments in favor of reverse engineering and noting that, implicit within the Supreme Court's holding in *Bonito Boats*, is a notion that the law accepts reverse engineering as an appropriate method of obtaining another's idea).

84. Heald, *supra* note 34, at 961, 969 (noting that "[f]rom an economic perspective, the Court's preemption decisions have not been contradictory" and that, under the analysis presented in *Sears, Compco, Kewanee*, and *Bonito Boats*, "[p]reemption occurs when analysis of protection criteria reveals a direct conflict between state and federal patent law"); Lichtman, *supra* note 2, at 715-16 (discussing the Supreme Court's intellectual property preemption jurisprudence and noting that the patent laws do include a negative inference precluding the states from establishing intellectual property protection "so great so as to undermine the incentives created by the federal regime").

85. The system described is effectively the patent system without the expensive and timely procedures required to first obtain a federally protected patent. Given that protection would be similar, rational innovators would choose the less costly state protection and thereby impermissibly intrude on the federal scheme.

patentability, trade secret law clearly represents an easier scheme under which an innovator could obtain protection for her idea.<sup>86</sup>

If trade secret law prohibited reverse engineering, it would render the patent scheme virtually superfluous. The patent laws would exist only to protect ideas that are easy to independently discover.<sup>87</sup> However, such ideas are likely ineligible for patent protection because of the requirements of novelty and nonobviousness.<sup>88</sup> More importantly, these ideas are likely not very valuable to society. Ideas that are easy to independently discover do not, by definition, represent significant advances beyond the current state of affairs.

Currently, innovators of any product that is either (1) easy to independently discover, or (2) difficult to independently discover and easy to reverse engineer, seek protection under the patent scheme. Defining misappropriation so as not to include reverse engineering, therefore, ensures that the patent scheme will not be rendered superfluous. In addition, defining misappropriation so as not to include reverse engineering promotes efficiency in trade secret law.<sup>89</sup> Consequently, reverse engineering should remain an appropriate method of obtaining a competitor's idea.

In the following sections, this Note will develop the elements mentioned above as appropriate alterations in the law of trade secrets, contrast these elements with the current state of the law, and make clear that focusing on these elements in the appropriate fashion will provide efficient protection.

### A. Secrecy

To provide efficient protection, secrecy must serve two distinct functions. First, the definition of the element of secrecy must insure that one cannot limit the use of information that is generally known.<sup>90</sup>

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86. See generally 35 U.S.C. §§ 111-16, 131-35; POSNER, *supra* note 3 (An innovator certain of his idea's protection as a trade secret "will save the costs and avoid the uncertainties of the patent route; and he will not have to disclose the process, as he would in a patent application, thereby enabling his competitors to duplicate it once the patent expires").

87. Ideas difficult to independently discover would likely be protected under trade secret schemes. Exclusive rights to use such ideas would not be jeopardized by the ability of one to independently discover the idea because such a discovery is cost prohibitive.

88. 35 U.S.C. § 102 (setting forth novelty requirement); § 103 (setting forth nonobviousness requirement).

89. See *infra* Part IV.B.

90. This element is, of course, already included in the law. See *Kewanee*, 416 U.S. at 475 ("The subject of a trade secret must be secret, and must not be of public knowledge or of a general knowledge in the trade or business."); Heald, *supra* 34, at 987 ("Along with the requirement of business advantage, this [the notion that trade secret law protects only that

Courts can determine what sort of information is generally known with relative ease. Moreover, rational commercial entities will not incur litigation costs attempting to protect generally known information because competitive forces preclude those entities from recouping these litigation costs. Therefore, courts would rarely be faced with an attempt to assert exclusive ownership over information that is generally known. Beyond insuring that generally known information is not protected, the secrecy element must insure that an innovator cannot obtain a monopoly over an intentionally revealed idea.

### 1. Intentional Revelation

Most importantly, the secrecy element must also insure that one who has intentionally revealed information so as to benefit from its revelation cannot preclude another from using such information.<sup>91</sup> Intentionally revealing information represents a rational choice made by the innovator that the information is more valuable when revealed than as a secret, either because of the price paid to procure publication or because of the goodwill related to the publication. If an innovator is allowed to intentionally reveal information to a third party and then assert exclusive ownership over that information against the third party, the innovator obtains a windfall. The original innovator must be held to her bargain; she must lose the right to assert ownership over the information against the party to whom she has revealed such information.

Courts often look to the circumstances surrounding the secrecy of information to determine whether or not the innovator intended to reveal her information.<sup>92</sup> Courts now police this line between intentional revelation and maintaining secrecy by considering the

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which is not within the public domain] provides some assurance that what is kept secret is valuable and does not restrict a competitor's resort to the public domain.").

91. As discussed more fully later, courts' current use of the reasonable precautions requirement attempts to police this line. See *Rockwell Graphic Sys., Inc. v. DEV Industries, Inc.*, 925 F.2d 174, 179 (7th Cir. 1991) ("[I]f the plaintiff has allowed his trade secret to fall into the public domain, he would enjoy a windfall if permitted to recover damages merely because the defendant took the secret from him."); *Secure Services Tech., Inc. v. Time and Space Processing, Inc.*, 722 F. Supp. 1354, 1361 (E.D. Va. 1989) (denying protection of information as trade secret because the plaintiff effectively revealed information to the government when selling that information without taking reasonable precautions to maintain the secrecy after the sale (by not reserving proprietary rights)).

92. See, e.g., *Rockwell Graphic Sys., Inc.*, 925 F.2d at 179; *Secure Services Tech., Inc.*, 722 F. Supp. at 1361; *Palin Mfg. Co. v. Water Tech. Inc.*, 431 N.E.2d 1310, 1312-14 (Ill. App. Ct. 1982) (denying protection of information as trade secret because the information was not the subject of reasonable precautions to maintain secrecy; the information had been revealed in hopes of improving the device for sale).

reasonable precautions that one takes to maintain secrecy.<sup>93</sup> When courts recognize that an innovator may have revealed information so as to benefit from the revelation, focusing on the extent of precautions that an innovator takes is a valid method of determining, by circumstantial evidence, whether or not the innovator intended to benefit from revealing the information at issue. If the court finds that reasonable precautions were not taken, the court should not protect the information as a trade secret because doing so, given that the innovator intended to benefit from the revelation, grants the innovator a windfall and unnecessarily restricts competition.

For example, in *Secure Services Technology Inc. v. Time and Space Processing, Inc.*,<sup>94</sup> the court denied trade secret protection because the plaintiff had not taken reasonable precautions to maintain the secrecy of the innovation.<sup>95</sup> The court did not consider reasonable precautions relevant as a distinct element of the tort.<sup>96</sup> Rather, the court focused on the reasonable precautions that the innovator took to determine whether or not the information was secret.<sup>97</sup> Specifically, the court considered reasonable precautions relevant to determining whether or not the innovator intentionally revealed the information at issue so as to benefit from the revelation.<sup>98</sup>

The plaintiff, in *Secure Services Technology, Inc.*, manufactured and sold TEMPEST facsimile machines to "American and NATO agencies and to qualified private government contractors."<sup>99</sup> The defendant, recognizing that there were few suppliers of TEMPEST machines, began research to independently develop the machine so that it could enter the market.<sup>100</sup> The most significant hurdle facing the defendant in its attempt to enter the market was that the consumers of such machines demanded that all machines, regardless of their manufacturer, be inter-operable.<sup>101</sup> To achieve

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93. Edmund W. Kitch, *The Law and Economics of Rights in Valuable Information*, 9 J. LEGAL STUDIES 683, 698 (1980) (suggesting that the reasonable precautions requirement allows courts to (1) identify what secrets are sufficiently secret and (2) demand that employers provide notice to employees of those ideas considered trade secrets).

94. 722 F. Supp. at 1354.

95. *Id.* at 1361-62 ("Accordingly, the Court concludes that even assuming the protocol variations are protectible proprietary information, SST's failure to take the necessary, minimal precautions to safeguard this information when it sold the TEMPEST machines to the government renders the information ineligible for trade secret protection.").

96. *See id.* at 1361 ("In this case, by selling its machine without reserving proprietary rights, SST effectively disclosed its protocol variations.").

97. *Id.*

98. *Id.*

99. *Id.* at 1357.

100. *Id.*

101. *Id.*

interoperability, the government—the consumer of all machines—provided the defendant with the plaintiff's machine, which was the plaintiff's trade secret.<sup>102</sup> The contract for sale between the plaintiff and the government did not reserve any proprietary interest in the machine for the plaintiff.<sup>103</sup> The court held that this failure to reserve an interest constituted a lack of reasonable precautions.<sup>104</sup> Therefore, the plaintiff could not assert exclusive ownership rights against the defendant.

In *Secure Services Technology Inc.*, the court's examination of reasonable precautions was determinative of whether or not the plaintiff intentionally revealed the information at issue.<sup>105</sup> Since reasonable precautions had not been taken, the court concluded that the information had been intentionally revealed.<sup>106</sup> Given the context, a sale of information to the government, the plaintiff likely benefited from not reserving a proprietary interest in the information.<sup>107</sup> The government, recognizing the additional advantage it gained because the plaintiff did not reserve a proprietary interest, likely paid additional consideration to the plaintiff for the use of the machine. Allowing the plaintiff to assert exclusive ownership rights over the information would, therefore, allow the plaintiff to benefit both from revealing the information, as well as from excluding others from using the information, providing the plaintiff with a windfall. Consequently, the court was justified in considering the reasonable precautions taken to maintain secrecy.

## 2. Inefficient Developments in the Secrecy Element

Some courts place undue emphasis on the reasonable precautions factor in determining whether or not the innovator is entitled to trade secret protection.<sup>108</sup> Specifically, many courts, who claim to follow the Restatement of Torts, define secrecy solely by

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102. *Id.* at 1359.

103. *Id.*

104. *Id.* at 1361-62.

105. *Id.* at 1361.

106. *Id.*

107. *Id.* at 1359.

108. See UNIF. TRADE SECRETS ACT, 14 U.L.A. 438 (including a reasonable precautions requirement in the definition of a trade secret and thereby intimating that secrecy is insufficient so long as reasonable precautions are not taken); *Nationwide Chemical Corp. v. Wright*, 458 F. Supp. 828, 837 (M.D. Fl. 1976) (denying protection of information as trade secret even though the information was largely secret because the plaintiff failed to take reasonable precautions to maintain secrecy); *Sheets v. Yamaha Motors Corp.*, 657 F. Supp. 319, 326-27 (E.D. La. 1987) (applying Louisiana's version of the UTSA and demanding that there be reasonable precautions taken to insure secrecy in addition to requiring that the information be secret).

reference to the reasonable precautions taken to maintain secrecy.<sup>109</sup> As is made clear by the above discussion and as is intimated by the first Restatement of Torts, reasonable precautions taken to maintain secrecy are relevant only when the facts of a given case demand that courts consider the reasonable precautions to determine whether information has been kept sufficiently secret to warrant trade secret protection.<sup>110</sup> The secrecy element can, in most instances, be easily established by considering the extent to which the information at issue is generally known.<sup>111</sup> Therefore, the reasonable precautions factor should be considered only when the court faces an innovator who may have intentionally revealed information so as to benefit from the revelation.<sup>112</sup> The extent of precautions should have virtually no relevance outside of this context. As an independent element, the factor establishes an inefficient protection scheme where courts demand reasonable precautions be taken when there is no concern as to whether or not the information has been intentionally revealed.

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109. See RESTATEMENT OF TORTS § 757 cmt. b (contending for a consideration of reasonable precautions only in the context of determining secrecy not as an independent element in addition to secrecy); *Junkunc v. S.J. Advanced Tech. & Mfg. Corp.*, 498 N.E.2d 1179, 1183 (Ill. App. Ct. 1986) (noting that “the extent of measures that the alleged owner takes to guard the secrecy of the information is determinative of whether it is a trade secret.”).

110. RESTATEMENT OF TORTS § 757 cmt. b. Reasonable precautions seem relevant only if the party alleged to have misappropriated a trade secret claims that the original innovator—the one from whom the secret was allegedly taken—intentionally revealed the information to the alleged misappropriator. Most importantly, the existence of reasonable precautions cannot be the method by which courts determine whether or not information claimed to be a trade secret is sufficiently secret.

111. Multiple entities can and should have a right to exclude others, those that do not have the same right to exclude, from using one’s trade secret. Thus, courts should not demand significant levels of secrecy. Given the relatively low bar established by the requirement, courts should have little difficulty concluding that information is sufficiently secret.

112. See *Secure Services Tech. Inc.*, 722 F. Supp. at 1361-62 (denying protection of information as trade secret because the plaintiff effectively revealed information to the government when selling that information without taking reasonable precautions to maintain the secrecy after the sale (by not reserving proprietary rights)); *Palin Mfg. Co. v. Water Tech., Inc.*, 431 N.E.2d 1310, 1312-14 (Ill. App. Ct. 1982) (denying protection of information as trade secret because the information was not the subject of reasonable precautions to maintain secrecy; the information had been revealed in hopes of improving the device for sale); Kitch, *supra* note 93, at 696-98 (“Why do the courts require that the plaintiff show, as a condition of recovery, that he has expended resources keeping the information secret? Are not all such protective expenditures wasteful? Property rights are not usually lost because the owner has not expended sufficient resources to protect them.”). Professor Kitch briefly discusses the reasonable precautions requirement and identifies two justifications for it. *Id.* First, the courts may focus on reasonable precautions to insure “that there is a reasonable probability that the secrets are in fact secret.” *Id.* at 698. Second, courts may focus on reasonable precautions “so that employees know that confidentiality is claimed for the information involved . . .” *Id.* This Note contends that focusing on reasonable precautions is unnecessary. The extent of secrecy necessary to establish trade secret protection is minimal.

This Note contends that the more efficient approach is to demand that the law, instead of the innovator, provide the protection needed to protect one's secret.<sup>113</sup> Not requiring innovators to take

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113. See WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF TORT LAW* 159-89 (1987); POSNER, *supra* note 3, at 224-33. Misappropriation of trade secret should be considered a "real" intentional tort, one in which the law promotes efficiency by not demanding that the potential victim take precautions to avoid being injured. See LANDES & POSNER, *supra*, at 150-53; POSNER, *supra* note 3, at 225-26. For unintentional torts and intentional torts which Landes and Posner consider not economically distinct from unintentional torts, Landes and Posner suggest that the potential victim should take precautions to avoid being injured. LANDES & POSNER, *supra*, at 88-96 (noting the efficient outcomes presented by a theory of contributory negligence); POSNER, *supra* note 3, at 185-92 (discussing theories of victim fault and generally noting that the law promotes efficiency by demanding, in the context of unintentional torts, that the law be "careful not to impair the incentives of potential accident victims to take efficient precautions"). With regard to intentional torts that are economically distinct from unintentional torts, characterized as "real" intentional torts, however, Landes and Posner suggest that the victim fault should have no relevance to a determination of liability. LANDES & POSNER, *supra*, at 149-54; POSNER, *supra* note 3, at 224-28. Posner and Landes define a "real" intentional tort as one that involves a coerced transfer of wealth as distinct from a "conflict between legitimate (productive) activities." POSNER, *supra* note 3, at 225-26; see LANDES & POSNER, *supra*, at 149-53.

Both in form and in substance misappropriation of trade secrets should be treated as a "real" intentional tort. One who misappropriates a secret does not do so inadvertently while conducting otherwise socially advantageous behavior. Landes and Posner suggest that unintentional torts can be differentiated from "real" intentional torts, those that do not require the potential victim to take action to avoid, by noting that the tortfeasor can commit a "real" intentional tort only by taking affirmative steps to effect a harm while a tortfeasor can commit an unintentional tort by failing to take affirmative steps, such as sufficient precautions. POSNER, *supra* note 3, at 225-26; see LANDES & POSNER, *supra*, at 149-53. Further, given the proximity of trade secret misappropriation to conversion—in fact, many courts characterize the tort of misappropriation of trade secrets as conversion of trade secrets—and Posner's explicit conclusion that conversion is a "real" intentional tort, misappropriation of trade secrets should be considered a "real" intentional tort. See *Penalty Kick Mgmt. v. Coca Cola Co.*, 318 F.3d 1284, 1297 (11th Cir. 2003) (characterizing a case involving trade secret misappropriation as "conversion of trade secret information"); POSNER, *supra* note 3, at 225 (characterizing conversion as one of a "set of intentional torts that are economically distinct from unintentional torts"). Thus, misappropriation of trade secrets is a "real" intentional tort for which the law should not demand that the potential victim take precautions to avoid being injured.

Professor Landes and Judge Posner, along with David Friedman, have intimated that trade secret law should not demand that an innovator take reasonable precautions to maintain the secrecy of her information. See Friedman et al., *supra* note 9, at 69-71 (concluding that the court, in *E.I. duPont deNemours & Co. v. Christopher*, 431 F.2d 1012 (5th Cir. 1970), reached the correct result in holding the defendant liable for trade secret misappropriation because "[d]enial of legal protection might induce firms in du Pont's [the *Christopher* plaintiffs] position to invest heavily in roofing over construction sites . . ."). However, earlier in the Friedman piece, the authors conclude that reasonable precautions are appropriate to avoid loss by accident or reverse engineering. *Id.* at 69 ("[E]xpenditures on preventing its (the trade secret) loss by accident or reverse engineering are likely to be productive."). Thus, Friedman, Landes, and Posner suggest that some precautions are economically valid while others are not. *Id.* at 69-71. One is left to decipher what amounts to appropriate precautions. In addition, the import of this conclusion that precautions are not necessary to avoid theft is not fully addressed in the Friedman piece. *Id.* at 66-71 (discussing positive economics of trade secret law but avoiding any normative statements as to what the law should be). This Note more fully explains the

reasonable precautions to avoid losing exclusive rights to use their trade secrets promotes efficiency because it insures that neither the original innovator nor the competitor seeking to obtain the trade secret undertake wasteful activities.<sup>114</sup>

If a competitor wants to obtain an innovator's trade secret, the parties can reach an efficient agreement by operating through the market.<sup>115</sup> Generally, imposing liability for trade secret misappropriation requires that parties bargain through the market rather than seek to obtain commercial secrets without the innovator's consent.<sup>116</sup> Imposing liability without regard to the actions of a victim, without concern for reasonable precautions, allows the innovator to avoid the inefficient and potentially costly undertaking of providing such precautions.<sup>117</sup> Innovators should focus on innovating. Requiring an innovator to take reasonable precautions to insure the secrecy of her idea is inefficient.

### B. Misappropriation

To achieve an efficient level of trade secret protection, courts must broadly define misappropriation so as to encompass all methods by which one may obtain information except those methods that can appropriately be characterized as independent discovery or reverse engineering. Through the misappropriation element, courts can utilize market forces to limit the monopoly right granted to an innovator. Through this element, courts can infuse competition into the law's protection of commercial secrets.

Essential to trade secret law's uniquely efficient protection is the notion that competitors will seek to obtain the secrets considered

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inefficiency of the reasonable precautions requirement and affirmatively provides a framework, one without the reasonable precautions requirement, for enhancing the efficiency of trade secret law.

114. LANDES & POSNER, *supra* note 113, at 149-53; POSNER, *supra* note 3, at 226.

115. LANDES & POSNER, *supra* note 113, at 154 (noting that "real" intentional torts are effectively a transaction that is not value maximizing); POSNER, *supra* note 3, at 226 ("Such conduct (intentional torts that operate as coercive transfers) is inefficient because it violates the principle that when market transaction costs are low, people should be required to use the market if they can and to desist from the conduct if they can't.").

116. LANDES & POSNER, *supra* note 113, at 154 (noting that "real" intentional torts are effectively a transaction that is not value maximizing); POSNER, *supra* note 3, at 226 ("Such conduct (intentional torts that operate as coercive transfers) is inefficient because it violates the principle that when market transaction costs are low, people should be required to use the market if they can and to desist from the conduct if they can't.").

117. LANDES & POSNER, *supra* note 113, at 154 (noting that liability does not hinge on the victim of an intentional tort taking action to avoid injury); POSNER, *supra* note 3, at 226 (considering all costs that the potential victim would incur with the intent of protecting against injury as socially wasteful).

most valuable, those that grant the original innovator the most extensive and socially detrimental monopoly rights. Competitors in any given industry will seek to obtain secrets used by a member of that industry to obtain a competitive advantage. The exclusive knowledge controlled by the initial innovator of a given idea will grant that innovator the potential of realizing excessive profits, of exercising monopolistic power over a given market. The existence of these profits will pique the interest of competitors. Thus, competitors will seek to obtain the secret from which the original innovator is profiting.

Rational actors will seek to obtain ideas protected as trade secrets through whatever means possible.<sup>118</sup> To reduce the detrimental aspects of the exclusive right granted the innovator, consumers desire any means by which one could obtain such information to be acceptable.<sup>119</sup> However, because allowing any means to be acceptable would largely eliminate the ability of the innovator to recover her development costs, the law cannot so casually define misappropriation to encompass all means by which one may obtain a commercial secret.

When considering the misappropriation element for the purpose of establishing an efficient regime, it is important that those actions considered not to constitute misappropriation be actions for which the innovator can appropriately estimate the length of time it will take a competitor to enter the market with a competing innovation. The original innovator must be able to determine her lead-time. With such knowledge, the original innovator can price the innovation so as to recoup the costs she incurred developing the idea before a competitor can enter the market.

If competitors could obtain the idea by unpredictable means, the original innovator would not be able to estimate the length of her monopoly and would, thus, not be able to price her idea so as to recoup her development costs. Faced with a regime in which the original innovator would experience substantial risk in recouping her costs, she would include the risk of not recouping her costs into the price of her idea. As such, the original innovator would demand a more substantial monopoly right—one of potentially greater length or one of more extensive exclusivity. A more substantial monopoly would harm

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118. All means, those leading to and not leading to legal liability, will be considered. Means leading to liability—those means considered sufficient to constitute misappropriation—will be disregarded if and only if the costs associated with the potential punishment multiplied by the probability of such punishment outweigh the estimated benefit of using the secret at issue.

119. This, of course, assumes that the idea has been developed initially. If the idea had not been developed, rational consumers would concede that the law must grant a degree of exclusivity so that the idea will be developed.

society. The most efficient result, therefore, can only be achieved if the law allows competitors to obtain the idea in whatever way possible so long as the length of time it would take to obtain the idea through allowable methods can be estimated.

Given that the market determines the innovator's output and pricing, simply knowing the length of time during which one will be the sole producer of an innovation may be insufficient to allow the innovator to recoup her development costs. If, for example, one's lead-time can be estimated but it is estimated to be quite short, the market may preclude the innovator from raising her price to a level adequately above the marginal cost of producing her product such that she can fully recoup her development costs. For this reason, many scholars have considered the length of lead-time, rather than the ability of the innovator to estimate such lead-time, as most essential to ensure that the market grants the innovator the ability to recoup her development costs.<sup>120</sup>

Most prominently, Professor Reichman contends that the current technological environment limits the amount of lead-time so much so that modifications to existing intellectual property schemes must provide artificial lead-time.<sup>121</sup> According to Professor Reichman, technological advances in today's environment are expensive to independently discover yet, because of more societal focus on tools needed to quickly reverse engineer given products, relatively easy to reverse engineer.<sup>122</sup> Thus, Professor Reichman's proposed intellectual property paradigm focuses on providing innovators with additional lead-time so they can fully recoup their development costs.<sup>123</sup> Professor Reichman's concludes that the length of lead-time, not the

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120. See, e.g., Maureen A. O'Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. 1177, 1208 (2000) (proposing to modify patent law to insure that the patent right gravitates to the most valued user by recognizing a fair use defense while noting that "[I]f the R&D investment is quite large in absolute dollars, the patentee may require a certain lead-time in the market to allow it to recoup both its investment and a reasonable return thereon"); Reichman, *supra* note 2, at 2506 (generally discussing the importance of the length of lead-time in allowing innovators to recoup their development costs and proposing a new protection scheme that provides artificial lead-time because the enhanced ability of firms to reverse engineer products to decipher trade secrets has eliminated much of the natural lead-time that the innovator demands to recoup her costs to innovate).

121. Reichman, *supra* note 2, at 2432.

122. Reichman, *supra* note 2, at 2525 ("[C]lassical trade secret law regulates the pace and direction of ordinary competition, built upon routine or incremental innovation by: (1) providing natural lead-time, (2) requiring second comers to share directly or indirectly in the costs of research and development, and (3) avoiding abusive licensing constraints on the use of unpatented information. This standard formula for healthy competition breaks down under modern conditions, however, because of the generalized contraction of lead-time in the commercialization of applied know-how identified above . . .").

123. *Id.* at 2529-57.

ability of an innovator to accurately estimate such lead-time, is most relevant.<sup>124</sup>

Professor Reichman supports his notion that existing intellectual property regimes do not provide sufficient lead-time by identifying the existence of numerous “hybrid” legal regimes.<sup>125</sup> In other words, Professor Reichman concludes that the existence of alternative methods of protection tends to show that more traditional protection schemes, like trade secret and patent law, are ineffective.<sup>126</sup> However, he fails to consider other plausible justifications for the existence of these alternative protection schemes. First, the alternative protection schemes may exist because current schemes provide no lead-time. Second, these alternative legal regimes may exist because innovators desire and therefore lobby for protection beyond merely the efficient level of protection. Given alternative justifications for the existence of these hybrid schemes, Professor Reichman’s focus on the concern that traditional trade secret law provides an insufficient length of lead-time may be misplaced.

As exemplified by Professor Reichman, those scholars wholly concerned with the length of lead-time do not sufficiently address the notion that an innovator may be able to recoup most of her development costs as long as she can estimate her lead-time.<sup>127</sup> There still remains, however, the concern that providing for some lead-time that can be estimated by the innovator will be insufficient because of market constraints.

The inability of an innovator to recoup her development costs because of a short lead-time will be most acute when the innovator has developed a product expensive to independently discover yet inexpensive to reverse engineer. After developing such a product, the

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124. Scholars’ focus on the amount of lead-time does not necessarily lead one to conclude that the existence of lead-time is not more relevant. Discussing the need to extend the length of lead-time may be a way for scholars to note the absence of any lead-time. Because scholars do not address the existence of lead-time and the length of such lead-time independently, one cannot easily decipher which factor is more important to their analysis. Given, however, the prominence of Professor Reichman’s discussion and his explicit conclusion that the current trade secret scheme is insufficient because it fails to provide a sufficient amount of lead-time, one may most plausibly conclude that scholars discussing lead-time are concerned primarily with the extent and not the existence of it. Therefore, the proposal presented by this Note may be considered by some scholars to be insufficient because of its primary focus on the existence of lead-time. The distinction between the existence and length of lead-time demands further analysis now presented.

125. *Id.* at 2455-2504. A “hybrid” regime is one that falls between the most popular copyright and patent schemes. *Id.* at 2444 (noting that a hybrid legal regimes have been enacted to provide exclusivity to innovations that fall outside of the traditional patent and copyright schemes).

126. *Id.* at 2504.

127. *See id.*

innovator may seek protection under the patent scheme. In fact, given the complete exclusivity provided by the patent scheme, an innovation that can be independently discovered only with great cost but can be easily reverse engineered seems most appropriately protected under the patent laws.<sup>128</sup> If, however, the innovation does not meet the strict standards of patentability, the innovator will be unable to obtain legal protection for her innovation.<sup>129</sup> Given the sort of innovation falling into this category, no protection may be the most efficient result. The innovation most likely will not receive patent protection because it lacks the novelty or nonobviousness that the patent law requires.<sup>130</sup> The innovation cannot obtain adequate protection as a trade secret because consumers do not demand the product enough so that the innovator can recoup her development costs during the short period of time that it takes competitors to reverse engineer the competitor's product.

Intellectual property laws should not provide incentives to innovators to undertake significant development costs for relatively unwanted products. Ultimately, trade secret law may provide efficient outcomes by denying protection to an idea that does not provide a substantial enough monopoly right to allow the innovator to recoup her development costs. Therefore, when determining which actions should not constitute misappropriation, the primary focus must be identifying those actions for which the innovator can accurately estimate the time it would take for a competitor to duplicate the innovation. While insuring that innovators can estimate their lead-time is most important, it is possible that market constraints may keep an innovator from recouping the development costs of an innovation that would benefit society.

To respond appropriately to Professor Reichman's concern, the modifications to trade secret law's misappropriation element proposed by this Note focus on the extent to which an innovator can accurately estimate the length of time it will take a competitor to obtain the protected idea through the activity considered not to constitute misappropriation. The discussion proceeds with one significant assumption: the initial innovator's cost to develop the idea will positively correlate with the difficulty of obtaining the protected idea through the activity considered not to constitute misappropriation.

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128. Given the patent law's bar against reverse engineering, a product that can be easily reverse engineered would not be suited for protection under trade secret laws.

129. See 35 U.S.C. § 102 (2000) (setting forth the novelty requirement); 35 U.S.C. § 103 (setting for the nonobviousness requirement).

130. Only two elements of the five elements of patentability are addressed here because these two represent the most significant bars to patentability.

This analysis reveals that two methods of obtaining a protected idea should be considered not to constitute misappropriation: (1) independent discovery<sup>131</sup> and (2) reverse engineering.

### 1. Independent Discovery

Independent discovery should be an allowable method of obtaining an idea that another innovator protects as a trade secret.<sup>132</sup> The original innovator can accurately estimate the length of time it would take another to independently discover the idea.<sup>133</sup> Further, the trade secrets most expensive to initially discover are those trade secrets that a competitor will have the most difficulty independently developing. As such, the original innovator will be certain to have some length of time to recoup the costs of innovating.<sup>134</sup>

While sufficient to insure that valuable ideas are developed, the monopoly granted by an efficient trade secret scheme, one that recognizes independent discovery as an appropriate method of obtaining another's idea, will be limited by competitors independently developing the idea protected as a trade secret. The secrets most sought after will be those for which the original innovator extracts the

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131. Generally, independent discovery occurs when an innovator uses her own resources to develop an idea without relying in any way on the original innovator's efforts. *E.g.*, Armond, *supra* note 26, at 139 (defining independent invention as "when an entity endeavors to produce a technological innovation independently, expending the R&D costs necessary to develop the innovation from the prior state of the technological field").

132. Beyond the benefits of allowing one to independently discover an idea as described in this Note, such ability largely avoids the socially wasteful race to develop an idea first. Much of the discussion of this race comes from the context of the patent scheme. *E.g.*, John S. Leibovitz, Note, *Inventing a Nonexclusive Patent System*, 111 YALE L.J. 2251, 2268 (2002) (proposing modifications to the patent regime so that independent discovery is a defense to patent infringement); Armond, *supra* note 26, at 121-22 (proposing an independent invention defense to avoid specifically a preliminary injunction); Maurer & Scotchmer, *supra* note 26, at 536-42 (conducting economic analysis of the independent discovery defense and noting that such a defense furthers the ability of the market, by complementing use of licenses, to allow the right to use a protected idea to go to the highest valued user). The economic theory presented by Professors Maurer and Scotchmer is well beyond the scope of this Note. However, the general discussion of the independent discovery defense reveals the economic advantages of allowing independent discovery.

133. The innovator knows just how long it took her to discover the idea. Thus, she must be able to determine, with some degree of accuracy, how long it would take for another to independently discover the idea. If a competing innovator had been secretly developing the idea at the same time as the original innovator—the original innovator reduced the idea to a more marketable form first—the original innovator may not be sufficiently cognizant of the competing innovator's efforts. Otherwise, the original innovator will have a fair estimate of the length of time it would take for a competing innovator to develop the innovation.

134. For this reason, allowing one to obtain an idea protected as a trade secret through independent discovery addresses the concern that the length of lead-time is most important in allowing an innovator to recoup her development costs.

most exorbitant monopolistic rents. In these markets, society most needs competition. Once developed by the second innovator, the idea will be protected until another innovator independently develops the idea. The law will provide protection to successive developers until the market for the idea is saturated to the extent that the idea can be considered generally known and no longer eligible for protection as a trade secret.

## 2. Reverse Engineering

Along with independent discovery, the law should allow a competitor to obtain an idea protected as a trade secret through reverse engineering. Most importantly, an innovator can estimate the length of time it would take a competitor to reverse engineer the innovator's idea.<sup>135</sup> As such, the innovator can price her idea so as to recoup her development costs. Further, it seems likely that the difficulty of independently discovering the idea correlates with the difficulty of reverse engineering the idea. For the ideas more difficult to independently discover, the innovator will have a longer opportunity to recoup the costs of her investment. Therefore, the innovator will likely be able to recoup her development costs.

Admittedly, the difficulty of independently developing the idea may not correlate with the difficulty of reverse engineering the idea. The first innovator to develop an idea answers many of the difficult questions initially inhibiting the idea's development. Once these questions are answered, the innovation may be much easier to achieve. So long as there is some lead-time, however, the length of that time is less relevant than is the ability of the innovator to estimate the amount of that time. In addition, courts and commentators uniformly recognize the benefit of reverse engineering to promoting innovation through the dissemination of ideas.<sup>136</sup>

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135. The original innovator is sufficiently familiar with her idea and/or the product embodying such idea that the innovator should be able to determine how long it will take another to reduce the product sold on the marketplace to the valued idea.

136. *Bonito Boats, Inc. v. Thunder Crafts Boats, Inc.*, 489 U.S. 141, 160-61 (1989) ("Reverse engineering of chemical and mechanical articles in the public domain often leads to significant advances in technology.") ("Moreover, as we noted in *Kewanee*, the competitive reality of reverse engineering may act as a spur to the inventor, creating an incentive to develop inventions that meet the rigorous requirements of patentability."); Samuelson & Scotchmer, *supra* note 83, at 1575, 1590 (generally presenting both economic and legal arguments in favor of reverse engineering and specifically noting that "a right to reverse engineer has a salutary effect on price competition and on the dissemination of know-how that can lead to new and improved products"); Reichman, *supra* note 2, at 2521-22 (noting that reverse engineering creates the following benefits to "the innovative community's overall costs of research and development": (1) "provides originators with an indispensable period of natural lead time in which to recoup their

### 3. Efficient Examples and Inefficient Treatment

Some courts have invoked the misappropriation element for the proper purpose: to avoid holding liable one who develops a trade secret through reverse engineering or independent discovery. The most prevalent example is the oft-cited and oft-misunderstood *Christopher* case.<sup>137</sup> Many more courts, however, consider the misappropriation element to be the appropriate avenue through which the law can mandate some form of commercial morality.<sup>138</sup> As such, many courts conclude that misappropriation occurs only through independent legal wrongs such as physical trespass or breach of a confidential relationship.<sup>139</sup> The general intuition and the result in *Christopher*, however, represents the way in which trade secret law can achieve an efficient measure of protection.

In *Christopher*, the defendants obtained the plaintiff's trade secret by taking aerial photographs of the plaintiff's facility.<sup>140</sup> The defendants had no existing relationship with the plaintiff, and because the photographs were taken from the air, the defendant did not physically trespass on the plaintiff's property.<sup>141</sup> Further, the defendants did not obtain the secrets at issue through either

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initial investment and to establish footholds in the market"; (2) "entitles fair followers who are willing to defray the costs of mastering an innovator's undisclosed know-how to compete on advantageous terms with the innovator by exploiting the costs reductions, technical improvements, and new applications that reverse engineering reveals"; (3) allows costs of innovation to be borne by both original innovators and "fair followers," those who reverse engineer, by fueling each other's innovation; (4) "unfair followers," those who do not reverse engineer but copy in other ways, "nonetheless remain liable to contribute to the total costs of research and development whenever courts find that they have breached the standard agreement," the agreement to follow trade secret norms that copying, not reverse engineering, is improper).

137. *E.I. duPont deNemours & Co. v. Christopher*, 431 F.2d 1012 (5th Cir. 1970).

138. *See, e.g., E.I. Du Pont deNemours Powder Co. v. Masland*, 244 U.S. 100, 102 (1917) (Holmes, J.) ("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 . . ."); *American Can Co. v. Mansukhani*, 728 F.2d 818, 820 (7th Cir. 1982) (holding that the misappropriation element was satisfied because of a breach of a confidential relationship); *Smith v. Dravo Corp.*, 203 F.2d 369, 376 (7th Cir. 1953) (premising liability for misappropriation of trade secrets on a finding of an implied confidential relationship); Comment, *supra* note 53, at 383 ("Most of the cases have in fact involved employees and breach of confidential relationship, not theft.").

139. *See supra* note 138.

140. *Christopher*, 431 F.2d at 1013.

141. *Id.* at 1014 ("The Christophers [the defendants] argued both at trial and before this court that they committed no 'actionable wrong' in photographing the DuPont facility and passing these photographs on to their client because they conducted all of their activities in public airspace, violated no government aviation standard, did not breach any confidential relation, and did not engage in any fraudulent or illegal conduct. In short, the Christophers argue that for an appropriation of trade secrets to be wrongful there must be a trespass, other illegal conduct, or breach of a confidential relationship.").

independent discovery or reverse engineering.<sup>142</sup> The court recognized, therefore, that it faced a unique question in the context of trade secret law: should misappropriation be defined more broadly than an independent legal wrong, i.e. breach of duty or physical trespass?<sup>143</sup> Because the law's "tolerance of the espionage game must cease when the protections required to prevent another's spying cost so much that the spirit of inventiveness is dampened," the court concluded that misappropriation must constitute more than other legal wrongs.<sup>144</sup>

In a relatively short opinion, the *Christopher* court did not conduct the economic analysis presented by this Note. As such, *Christopher* cannot be cited expressly for the proposition that trade secret law considers improper, and thus actionable, all conduct by which one obtains information protected as a trade secret except for independent discovery and reverse engineering.<sup>145</sup> However, the court's intuition that trade secret law exists to further the "spirit of inventiveness" allows commentators to provide courts with evidence of just what does dampen the spirit of inventiveness.<sup>146</sup> This Note and, specifically, the definition of misappropriation developed by this Note best facilitate the "spirit of inventiveness" which justified the *Christopher* court's conclusion.

The *Christopher* case has engendered much debate in trade secret law. The difficulty with the opinion stems from the somewhat

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142. *Id.* at 1013-14.

143. *See id.* at 1014 ("It is true, as the Christophers assert, that the previous trade secret cases have contained one or more of these elements [trespass, breach of confidential relationship, or other independent wrong]."); Chiappetta, *supra* note 2, at 82-83 (citing *Christopher* as "the best known discussion of" whether or not misappropriation should include "non-criminal or non-tortious 'bad' acts"); Bone, *supra* note 2, at 297 (citing *Christopher* as being representative of a category of trade secret cases where there has been neither a breach of confidence or a violation of an independent legal norm).

144. *Christopher*, 431 F.2d at 1014, 1015-16 (noting that most cases involve only breach of confidence, trespass, or other illegal act, but concluding that trade secret protection should not be limited to situations involving such an action).

145. The court does specifically note that reverse engineering and independent discovery cannot constitute misappropriation. *Id.* at 1015 ("One may use his competitor's secret process if he discovers the process by reverse engineering applied to the finished product; one may use a competitor's process if he discovers it by his own independent research . . ."). However, this language is not exhaustive. In other words, the court did not intimate that reverse engineering and independent discovery are the *only* means by which one may obtain an idea considered a trade secret.

146. *See Kitch*, *supra* note 93, at 697 (discussing *Christopher* and noting that there are two arguments implied by the court's conclusion: "First, the law should not create incentives for otherwise wasteful expenditures by refusing to provide legal protection. Second, to permit this kind of information taking [the kind at issue in *Christopher*] will result in an incorrect level of investment in innovation.").

lackadaisical discussion of the misappropriation element.<sup>147</sup> The court reached the correct result and must have done so with reasoning that comports with the view of misappropriation presented in this Note, but the court also included language arguably supportive of opposing views of the misappropriation element.<sup>148</sup>

Some commentators, frustrated by the decision because it infuses uncertainty into the law, conclude that the court must have independently determined that the defendant's action constituted some moral wrong.<sup>149</sup> In fact, the following language within the opinion provides support, although minimal, to such an argument: "[i]n general, they (means considered improper and, as such, constituting misappropriation) are means which fall below the generally accepted standards of commercial morality and reasonable conduct."<sup>150</sup> The court's inclusion of this language led some to believe that the opinion is about mandating commercial morality; however, the court cites no evidence to show that the defendant's actions violate "generally accepted standards of commercial morality and reasonable conduct."<sup>151</sup> Without such evidence it seems difficult to conclude that the action taken by the defendants was morally wrong.

The court must have reached its conclusion using a different theory than that trade secret law is about mandating commercial morality. The court's justification for concluding that the defendant's action should lead to liability is that "the protections required to prevent another's spying cost so much that the spirit of inventiveness is dampened."<sup>152</sup> To the *Christopher* court, therefore, the innovators satisfy the misappropriation element when the defendant's actions

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147. See *Christopher*, 431 F.2d at 1012, 1017.

148. See *id.*

149. E.g., Chiappetta, *supra* note 2, at 82-83 (1999) ("The difficulty with the court's approach (in *Christopher*) . . . is that testing for unreasonable precautions, dampening inventive spirit and commercial morality does not provide much analytical guidance. The court provides no basis for determining when costs or dampening are unacceptable or where to look for standards of commercial morality."); Bone, *supra* note 2, at 297-98 (identifying various theories that may potentially support the Court's conclusion but concluding that "[n]one of the Court's policy arguments are persuasive."); Note, *Trade Secret Misappropriation: A Cost-Benefit Response to the Fourth Amendment Analogy*, 106 HARV. L. REV. 461, 469 (1992) ("Moralistic rhetoric figured prominently in *Christopher* . . ."). The author of this note later conceded that "the court's intuition that the defendant's behavior was wrongful ultimately rested upon a consideration of DuPont's possible prevention costs . . ." *Id.* at 469-70.

150. *Christopher*, 431 F.2d at 1016 (citing the RESTATEMENT OF TORTS § 757 cmt. f). Later, the court discussed the misappropriation element in extremely moralistic tones: "We therefore need not proclaim a catalogue of commercial improprieties. Clearly, however, one of its commandments does say 'thou shalt not appropriate a trade secret through deviousness under circumstances in which countervailing defenses are not reasonably available.'" *Id.* at 1017.

151. *Id.* at 1016.

152. *Id.*

dampen the "spirit of inventiveness," not when the actions employed to obtain the secret violate some universal commercial sense of morality.<sup>153</sup>

*Christopher* has also been cited for the proposition that a competitor's actions should constitute misappropriation if an innovator, to maintain the secrecy of her information, would have taken precautions to the level that the benefit achieved from any further precautions would be outweighed by the costs of implementing such precautions.<sup>154</sup> The opinion includes language providing substantial support for this conclusion: "[c]ommercial privacy must be protected from espionage which could not have been reasonably anticipated or prevented."<sup>155</sup> With this, the court links the reasonable precautions to misappropriation. Essentially, any action that could be prevented only by precautions that cost more than the benefit of enhanced secrecy provided by those precautions constitutes misappropriation.<sup>156</sup> Stated differently, once an innovator takes reasonable precautions, any taking of the idea protected by those precautions constitutes misappropriation.<sup>157</sup>

Commentators citing *Christopher* for this cost-benefit approach frame the question of what should be considered misappropriation in more appropriate terms than do those citing *Christopher* as a court attempting to mandate commercial morality. The commentators supporting a cost-benefit approach present the question in this form with hopes of enhancing efficiency. However, commentators espousing

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153. *Id.*

154. See *Rockwell Graphic Sys., Inc. v. DEV Industries, Inc.* 925 F.2d 174, 178-80 (7th Cir. 1991) (Posner, J.) (concluding that the reasoning in *Christopher* represents a theory supporting insistence on the existence of reasonable precautions to reveal value of a trade secret—to make certain that the sort of misappropriation considered actionable is the sort that could be avoided by the innovator only by taking precautions so costly that the benefits, in terms of enhanced secrecy, are outweighed); Note, *supra* note 149, at 471-73 (1992) (citing *Christopher* and *Rockwell Graphic Sys, Inc.* for the proposition that "the cost of protective measures figures directly into a court's determination of whether a firm took reasonable precautions under the circumstances . . ." and concluding that precautions should be considered reasonable, and hence protection afforded, when the cost of precautionary measures "equals the marginal expected economic loss in the event of misappropriation, that is, the value of the trade secret to the owner multiplied by the decrease in the risk that the secret will be discovered by a competitor brought about by taking additional precautions"). For simplicity's sake, this definition of misappropriation will be called the cost-benefit approach.

155. *Christopher*, 431 F.2d at 1016.

156. See *id.* at 1017 ("[T]hou shall not appropriate a trade secret through deviousness under circumstances in which countervailing defenses are not reasonably available.").

157. *Id.*

such a view of the misappropriation element fail to fully identify the economic framework for trade secret protection.<sup>158</sup>

Requiring innovators to take reasonable precautions to insure the secrecy of their innovations forces innovators to focus efforts on precautions as opposed to innovations.<sup>159</sup> Commentators citing *Christopher* for the proposition that any action that could be prevented only be innovators taking precautions the cost of which are outweighed by the benefits resulting from enhanced secrecy demand reasonable precautions. Demanding reasonable precautions distracts innovators from their most economically valuable pursuit: innovating.<sup>160</sup>

Those proposing such a view of *Christopher* and of the reasonable precautions requirement seem convinced that the reasonable precautions element must be satisfied to invoke trade secret protection.<sup>161</sup> Given this assumption, that the reasonable precautions requirement cannot be divorced from trade secret law, commentators may be most comfortable considering the element in terms of costs and benefits. However, trade secret law need not necessarily include the reasonable precautions requirement. Moreover, considering whether or not the element is satisfied by focusing on costs and benefits makes the scheme inefficient.

According to those proposing a cost-benefit approach to misappropriation, an innovator must take precautions to a level at which the costs of any additional precautions would outweigh the benefit, in terms of enhanced secrecy, achieved by the precaution.<sup>162</sup> Were there no protection for intellectual property, this is precisely the calculus facing an innovator. Without trade secret protection, an innovator would decide to innovate only if the benefits of innovating would outweigh the costs necessary to allow one to benefit from such innovation. Without legal protection of trade secrets, the innovator's

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158. See generally Kitch, *supra* note 93, at 696-701 (generally discussing *Christopher*, citing the case as demanding that the innovator take reasonable precautions, and noting the inefficiency of such a requirement). This Note, in contrast to Professor Kitch, concludes that *Christopher* must not support the cost-benefit approach because the cost-benefit approach, as explained by Professor Kitch, demands that the innovator take reasonable precautions, yet such a requirement dampens the "spirit of inventiveness" that ultimately justified the court's holding.

159. See *id.*

160. See *id.*

161. See *Rockwell Graphic Sys., Inc. v. DEV Industries, Inc.* 925 F.2d 174 (7th Cir. 1991) (Posner, J.).

162. Note, *supra* note 149, at 473 ("Courts should require firms to invest in precautionary measures until the marginal cost of those measures equals the marginal expected economic loss in the event of misappropriation, that is, the value of the trade secret to the owner multiplied by the decrease in the risk that the secret will be discovered by a competitor brought about by taking additional precautions.").

costs would include the costs necessary to maintain the secrecy of the innovation. Under such a scheme, a rational innovator would incur such costs until the marginal benefit of the enhanced secrecy gained from the precautions taken would no longer outweigh the marginal cost of the precautions. The costs relevant in this calculus, those costs considered by innovators without any legal protection for trade secrets, are the exact same costs that an innovator would consider under the cost-benefit approach. If the law does not diminish the costs to maintaining secrecy, the innovator will not be more likely to innovate than she would be were there no legal protection.

The cost-benefit approach to misappropriation does alter the choice facing innovators to a small extent. In a world in which the innovator can obtain trade secret protection only by taking precautions up to the point at which the cost of any additional precautions outweighs the benefits of such precautions in terms of enhanced secrecy, the law provides the precautions that the innovator considers inefficient to take. The cost-benefit approach to misappropriation thereby assumes that the individual innovator can provide basic precautions more efficiently than can the law.<sup>163</sup> Once the innovator has taken such precautions, the law provides the rest.

This Note challenges the assumption behind the cost-benefit approach: that the market provides precautions more efficiently than does the law. Given that the law may provide precautions more efficiently, defining misappropriation in such a way so as to demand that the innovator take precautions promotes inefficiency. Consequently, the cost-benefit approach dampens the "spirit of inventiveness" that the *Christopher* court found vital to trade secret law. This spirit can be appropriately promoted only by recognizing that all actions by which a competitor may obtain information protected as a trade secret except for independent discovery and reverse engineering should be considered misappropriation.

The misappropriation element allows courts to infuse market forces into the law of trade secrets. The decision as to how to define misappropriation presents the opportunity for courts to provide efficient incentives to innovators. Failing to recognize the unique nature of trade secret law, however, some courts have defined misappropriation to achieve other objectives including the

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163. Commentators espousing an economic view of trade secret law have uniformly phrased the question differently than this. Such commentators seem to assume, without sufficient evidence, that the innovator must take reasonable precautions. With such an assumption, commentators attempt to define an efficient level of protection as that which would exist outside of law. Assuming that the innovator must take reasonable precautions is the flaw. An innovator need not necessarily take such precautions.

maintenance of commercial morality and the policing of confidential relationships.<sup>164</sup> These courts maintain that misappropriation can be found only by a physical trespass or a breach of a confidential relationship.<sup>165</sup> Defining misappropriation in this way is inefficient.

Defining misappropriation so as to encompass only physical trespass or breach of a confidential relationship allows competitors to obtain an innovator's trade secrets with impunity through means unanticipated by the innovator. If the innovator cannot estimate the length of time it may take for competitors to obtain her secret, the innovator cannot appropriately price her product so as to recoup her development costs.

Consider, for example, the situation innovators would have faced had the *Christopher* court reached the opposite result.<sup>166</sup> In economic terms, there is no distinction between physical trespass and obtaining the secret by taking aerial photographs of the plaintiff's facility.<sup>167</sup> Whether the defendant obtained the secret by physical trespass or by taking aerial photographs, the defendant's actions would affect a market-avoiding coercive transfer. As identified by Professor Landes and Judge Posner, forcing the parties to dicker in

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164. RESTATEMENT OF TORTS § 757 (providing some guidance as to actionable misappropriation); UNIF. TRADE SECRETS ACT, 14 U.L.A. 437-38 (defining both improper means and misappropriation); RESTATEMENT (THIRD) OF UNFAIR COMPETITION §§ 40-43 (defining both improper means and misappropriation).

165. See RESTATEMENT OF TORTS § 757(a)-(b); RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 40(a)-(b); UNIF. TRADE SECRETS ACT, 14 U.L.A. 438; see also, e.g., *E.I. Du Pont de Nemours Powder Co. v. Masland*, 244 U.S. 100, 102 (1917) (Holmes, J.) ("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 . . ."); *American Can Co. v. Mansukhani*, 728 F.2d 818, 820 (7th Cir. 1982) (holding that the misappropriation element was satisfied because of a breach of a confidential relationship); *Smith v. Dravo Corp.*, 203 F.2d 369, 376 (7th Cir. 1953) (premising liability for misappropriation of trade secrets on a finding of an implied confidential relationship); Comment, *supra* note 53, at 383 ("Most of the cases have in fact involved employees and breach of confidential relationship, not theft.").

166. See *Christopher*, 431 F.2d at 1014 ("In short, the Christophers [the defendants] argue that for an appropriation of trade secrets to be wrongful, there must be a trespass, other illegal conduct, or breach of a confidential relationship. We disagree.") If the court had reached the opposite result, the defendants would have avoided liability for obtaining the plaintiff's secret because they obtained the secret without physically trespassing on the plaintiff's property or without breaching a confidential relationship with the plaintiff. *Id.* at 1013-14. Recall that the defendants obtained the plaintiff's secret by taking aerial photographs of plaintiff's plant, which was, at the time, under construction. *Id.* at 1013.

167. See LANDES & POSNER, *supra* note 113, at 159-89 (1987); POSNER, *supra* note 3, at 224-33. A conversion of one's property through physical trespass no more avoids the efficiency gains of a market transaction than does obtaining one's property by taking aerial photographs. Both activities allow the competitor to obtain the idea without dickering with the original innovator. Since both activities are coercive transfers, there is no economic justification for differentiating between the two. We should impose liability on both sorts of transfers.

the marketplace would lead to a more efficient result.<sup>168</sup> Thus, the law should impose liability on one who obtains the secret by taking aerial photographs just as the law would impose liability on one who obtains the secret by physical trespass.

Perhaps most importantly for purposes of this Note, the original innovator can no better estimate the length of time it will take a competitor to obtain her idea through physical trespass than she could with aerial photography. If the innovator cannot estimate the length of time that it will take a competitor to obtain her secret, the innovator will be unable to develop a pricing strategy that will allow her to recoup her development costs. Thus, such a definition of misappropriation frustrates the efficient scheme presented by this Note. To promote efficient outcomes, courts and commentators must define misappropriation so as to encompass all actions by which one may obtain another's commercial secret except for independent discovery and reverse engineering.

## V. CONCLUSION

Trade secret law is uniquely efficient. By granting an exclusive property right limited by competitive forces, trade secret law allows innovators to recover development costs sufficient to justify their decision to innovate. To appropriately promote efficient innovation, courts and commentators should abandon those aspects of the current law grafted onto the efficient underpinnings. Ultimately, courts can promote efficient innovation by reforming trade secret law so that it includes only two significant elements.

First, courts should grant protection only to secret ideas. Secrecy should present only a relatively small hurdle; an idea should be considered sufficiently secret so long as it is not generally known throughout the industry in which the idea has relevance. Moreover, courts should no longer equate secrecy with reasonable precautions. Demanding that innovators take reasonable precautions in order to satisfy the secrecy requirement forces innovators to focus on taking precautions rather than developing innovations. Thus, demanding reasonable precautions leads to inefficient results.

Second, courts should hold liable anyone who obtains a secret idea by any means except reverse engineering and independent discovery. By granting certain methods of obtaining information impunity, the law allows competition to limit the exclusive property right granted to the innovator by trade secret law. To promote

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168. See LANDES & POSNER, *supra* note 113, at 159-89; POSNER, *supra* note 3, at 224-33.

efficient outcomes, the law must allow competitors to obtain a trade secret by any means for which the innovator can estimate the length of time it would take a competitor to obtain the secret through such means. Consequently, the law should consider improper all means by which one may obtain information except for reverse engineering and independent discovery.

By modifying trade secret law in accord with the proposals found in this Note, courts would return to the efficient underpinnings of trade secret law and establish a truly efficient intellectual property protection scheme. This scheme would create a limited monopoly to insure that ideas were developed. At the same time, the law would limit that protection so that the monopoly-reducing effects of competition remedy the problems caused by such exclusivity. Trade secret law, slightly modified from its current form, allows courts and commentators to achieve efficient protection of intellectual property.

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