TRADE SECRETS AND THE SKILLED EMPLOYEE IN THE COMPUTER INDUSTRY

With the development of the Electronic Numerical Integrator and Computer (ENIAC),[1] the Electronics Revolution began.[2] As the Revolution gained momentum,[3] the need for highly trained researchers, engineers and technicians increased dramatically.[4] These key employees[5] often obtain access to an employer's confidential business information.[6] When they change jobs within the same competitive industry, they inevitably reveal previously acquired knowledge, much of it confidential business information, to their new employers.[7] Some of this knowledge may constitute a trade secret.[8]

When determining whether trade secret protection is warranted, courts must strike a balance between the conflicting social policies of freedom of contract, business ethics and private economic freedom. This balancing process has left a checkered history of the law of trade secret protection in the context of the employment relationship.[9]

This Note discusses the legal grounds for trade secret protection,[10] with a particular focus on the employment relationship.[11] Further, this Note considers the conflicting social policies which courts must balance

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1. J. P. Eckert & J.W. Mauchly, Patent No. 3,120,606, granted February 4, 1967, 744 U.S. PAT. OFF. GAZETTE, 178.

2. *Asimov Foresees New Industrial Revolution,* COMPUTERWORLD, Feb. 9, 1981, at 26, col. 1.

3. *See infra* notes 74-77 and accompanying text.

4. *See infra* note 78 and accompanying text.

5. Commentators refer to skilled researchers, engineers and technicians as "key employees" because of their uniquely knowledgeable positions in the employer's firm. *See, e.g.,* VonKalinowski, *Key Employees and Trade Secrets,* 47 VA. L. REV. 583, 583 (1961).

6. The term "confidential business information" refers to all information which the employer subjectively wishes to keep confidential. The term "trade secret," on the other hand, refers to confidential business information which is legally protectable. *See infra* notes 45-59 and accompanying text.

7. *See, e.g.,* Gillette Co. v. Williams, 360 F. Supp. 1171, 1176-78 (D. Conn. 1978). Key employees have access to items of confidential business information, many of which are often assimilated into their general knowledge. If a second employer asks a computer programmer to develop a program to solve a particular problem, this programmer will undoubtedly draw upon the knowledge and experience gained while with the first employer. If the employee uses confidential information of his first employer to solve the second employer's problem, it is conceivable that the second employer could acquire some of the first employer's trade secrets.

8. *See infra* notes 37-59 and accompanying text.

9. A. TURNER, THE LAW OF TRADE SECRETS 3 (1962).

10. *See infra* notes 29-59 and accompanying text.

11. *See infra* notes 60-69 and accompanying text.

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when faced with trade secret protection problems arising from computer industry employment relationships.[12] Finally, this Note examines the viability of proposed means of dealing with employee appropriation of trade secrets,[13] and suggests an alternative approach to alleviate that problem.[14]

I. HISTORICAL BASIS OF TRADE SECRET LAW

Trade secret protection originated in the first century[15] when the definition of "plagium"[16] expanded to encompass the pirating of literary works.[17] Throughout ancient history, the law strictly curtailed the dissemination of trade secrets. The Romans used slavery to control the descent of trade secrets.[18] During the Middle Ages the guild system evolved, under which only guild members were entrusted with trade secrets.[19] By the seventeenth century, statutory protection for some types of intellectual property had begun to develop.[20]

In contrast to the stringent protection historically afforded trade secrets, current American law offers little protection. Although the framers of the Constitution explicitly provided for patents and copyrights, they failed to include protection for trade secrets.[21] In the ab-

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12. *See infra* notes 72-117 and accompanying text.

13. *See infra* notes 118-138 and accompanying text.

14. *See infra* notes 139-140 and accompanying text.

15. B. BUGBEE, THE GENESIS OF AMERICAN PATENT AND COPYRIGHT LAW 13 (1967).

16. "Plagium" is derived from the Latin word for kidnapping. VII OXFORD ENGLISH DICTIONARY 932 (1933).

17. B. BUGBEE, *supra* note 15.

18. Schiller, *Trade Secrets and the Roman Law,* 30 COLUM. L. REV. 837, 838-39 (1930). Roman law granted relief to a master if a slave betrayed a secret to a third party. *Id.*

19. Harris & Siegel, *Trade Secrets in the Context of Positive Competition,* 10 IDEA 297, 312 (1966). Strict enforcement of this rule sometimes caused trade secrets to disappear with the death of the last member of the guild. *Id.*

20. These statutes consisted primarily of grants of individual monopolies under private benefit legislation. Historians trace the beginning of patent law to this time period, when statutes generally prohibited monopolies but reserved monopolies for inventors' licensed inventions. An Act Concerning Monopolies, 1623, 21 Jac., ch. 3 §§ I-XIV. These early statutory protections assisted individuals in competing against the guild monopolies. ABRAHAMSON, THE PATENT SYSTEM: ITS ECONOMIC AND SOCIAL BASIS, Subcommittee on Patents, Trademarks, and Copyrights, Study No. 26, Senate Committee on the Judiciary, 86th Cong., 2d Sess. (1960). Almost a century later, Parliament enacted the first statutory copyright protection. An Act Vesting the Copies of Printed Books in the Authors of Such Copies, 1709, 8 Anne ch. 19 §§ I-XI.

21. The Constitution explicitly grants Congress the power "To promote the Progress of Science and useful acts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries," U.S CONST. art I, § 8, cl. 8. Federal law controls patent protection. *See* Patent Act of 1952, 35 U.S.C. §§ 1-376 (1976 & Supp. IV 1980); *see also*

sence of constitutional or statutory regulation, trade secret protection in the United States arose from the common law.[22]

The decision in *Peabody v. Norfolk*[23] marks the beginning of American trade secret law.[24] In *Peabody*, the plaintiff's decedent successfully developed a unique manufacturing process. He hired a machinist, the

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infra notes 79-82 and accompanying text. Federal law also controls copyright protection. *See* Copyright Act of 1976, 17 U.S.C. §§ 1-810 (1976 & Supp. V 1981); *see also infra* notes 83-88 and accompanying text.

22. The common law of trade secrets and the statutory regulation of patents and copyrights co-existed peacefully in American law for over a century. Courts did not consider the possibility that federal patent and copyright statutes preempt state trade secret law until the Supreme Court decisions in Sears, Roebuck & Co. v. Stiffel Co., 376 U.S. 225 (1964), and Compco Corp. v. Day-Brite Lighting, Inc., 376 U.S. 234 (1964). In *Sears-Compco* the Supreme Court held that federal patent law preempted the state common law of unfair competition. 376 U.S. at 229. The Court found preemption justified even though "the state law [was] enacted in the exercise of otherwise undoubted state power." *Id.*

The *Sears-Compco* decision caused uncertainty in the lower courts over the continued effect and scope of state trade secret law. Consequently, some courts refused to grant relief when they believed that local trade secret law was preempted under *Sears-Compco*. *See, e.g.,* Winston Research Corp. v. Minnesota Mining & Mfg. Co., 350 F.2d 134 (9th Cir. 1965); Titelock Carpet Strip Co. v. Klasner, 142 U.S.P.Q. 405 (Cal. Super. Ct. 1964). Most courts, however, continued to grant relief in all meritorious trade secret actions. *See, e.g.,* Dekar Indus., Inc. v. Bissett-Berman Corp., 434 F.2d 1304 (9th Cir. 1970), *cert. denied,* 402 U.S. 945 (1971) (applying state law); Servo Corp. v. General Elec. Co., 337 F.2d 716 (4th Cir. 1964), *cert. denied,* 383 U.S. 934 (1966) (applying state law); Components for Research, Inc. v. Isolation Prods., Inc., 241 Cal. App. 2d 726, 50 Cal. Rptr. 829 (1966); Schulenburg v. Signatrol, 33 Ill. 2d 379, 212 N.E.2d 865 (1965), *cert. denied,* 383 U.S. 959 (1966).

After a decade of confusion the Supreme Court settled the federal preemption issue in Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470 (1974). In *Kewanee,* the Court held that federal patent law does not preempt state trade secret law, even if a plaintiff could acquire patent protection for some of the material in question. *Id.* at 474. Since *Kewanee,* courts have consistently ruled against claims that state trade secret law is preempted by the federal copyright laws. *See, e.g.,* Truck Equip. Serv. Co. v. Fruehauf Corp., 536 F.2d 1210 (8th Cir.), *cert. denied,* 429 U.S. 861 (1976) (design of truck trailer protectable under state law, even though protectable under federal copyright law), *cert. denied,* 429 U.S. 861 (1976); Time Mechanism, Inc. v. Qonaar Corp., 422 F. Supp. 905 (D.N.J. 1976) (design of parking meter protectable under state law even though not protectable under federal copyright law).

Similarly, in Goldstein v. California, 412 U.S. 546, 569 (1973), the Court ruled that federal copyright law did not prohibit California from banning the copying of records and tapes made before February 15, 1972, the date Congress amended the federal copyright statute to include these items. *See* Pub. L. No. 92-140, 85 Stat. 391 (codified as amended at 17 U.S.C. § 102(a)(7) (1976)). *See also* Aronson v. Quick Point Pencil Co., 440 U.S. 257 (1979) (state has the right to enforce royalty payments under a trade secret agreement even though the licensee's production and sale of the item has placed it in the public domain).

23. 98 Mass. 452 (1868).

24. C. McManis, The Law of Unfair Trade Practices 282 (1982); Harris & Siegel, *supra* note 19, at 305; Note, *Industrial Secrets and the Skilled Employee,* 38 N.Y.U. L. Rev. 324, 324 (1963).

defendant, to help him implement the process. The defendant became intimately acquainted with the process and promised by contract not to disclose the secret process or any information pertaining to it.[25] Subsequently, the machinist began working for another entrepreneur and used the secret process in his factory. The developer's heir sued both the former employee and the entrepreneur, seeking an injunction against their use of the process.[26]

The *Peabody* court discussed several possible bases for trade secret protection, including protection as a property interest; protection as the subject of an employment contract restricting future disclosure; and, absent a contract, protection as the subject of a confidential relationship.[27] The court ultimately relied on the plaintiff's proprietary interest in the secret process to enjoin its use by both defendants.[28] Today, courts use all the rationales first enunciated in *Peabody* to protect trade secrets.

II. THE THEORETICAL BASIS FOR PROTECTING TRADE SECRETS

Many of the difficulties that arise with respect to trade secret protection stem from the problem of how to conceptualize a trade secret. A majority of courts classify trade secrets as property.[29]

In *E.I. DuPont de Nemours Powder Co. v. Masland*,[30] however, Justice Holmes suggested that courts consider the confidential relationship of the parties as an alternative ground for trade secret protection.[31] One

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25. 98 Mass. at 453.

26. *Id.* at 454.

27. The court stated:

[one who develops] a process of manufacture, whether a proper subject for patent or not, . . . has a property in it, which a court of chancery will protect against one who in violation of contract and breach of confidence undertakes to apply it to his own use, or to disclose it to third persons.

Id. at 458. At the time *Peabody* was decided, law and equity still existed separately. The defendant alleged that the executors had no standing to sue because no inheritable interest existed in the trade secret. To overcome this allegation and grant equitable relief, the court found a proprietary interest in the trade secret. Subsequent courts have attributed other property rights to trade secrets. *See, e.g.,* Lapin v. LaMaur, Inc., 11 F.R.D. 339 (D. Minn. 1951) (may be licensed); Chadwick v. Covell, 151 Mass. 190, 23 N.E. 1068 (1890) (may be sold); Vulcan Detinning Co. v. American Can Co., 67 N.J. Eq. 243, 58 A. 290 (Ch. 1904) (may be assigned), *rev'd on other grounds,* 72 N.J. Eq. 387, 67 A. 339 (N.J. 1970).

28. *Id.* at 455.

29. Approximately thirty states have adopted the conceptualization of a trade secret as a property right. *See* 12 R. MILGRIM, BUSINESS ORGANIZATIONS § 1.01[2], at 1-7 n.15 (1982).

30. 244 U.S. 100 (1917).

31. *Id.* at 102. Justice Holmes stated:

commentator finds the cases which base trade secret protection upon breach of a confidential relationship consistent with the property characterization because the courts could not grant relief to the holder in these latter cases unless he possessed property which courts could protect.[32] Other commentators, however, urge that *Masland* dismissed the proprietary view.[33] These commentators argue that confidential business information only acquires protection as a trade secret when it arises from a confidential relationship.[34] The fundamental precept of "fairness" underlies the rationale of both the proprietary and the confidential relationship theories. While courts disagree on the proper rationale,[35] they unanimously agree that the law will not allow parties to

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The word property as applied to trademarks and trade secrets is an unanalyzed expression of certain secondary consequences of the primary fact that the law makes some rudimentary requirements of good faith. Whether the plaintiffs have any valuable secret or not the defendant knows the facts, whatever they are, through a special confidence he accepted. The property may be demanded but the confidence cannot be. Therefore the starting point for the present matter is not the property or due process of the law, but that the defendant stood in confidential relations with the plaintiffs, or one of them.

Id.

32. 12 R. MILGRIM, *supra* note 29, § 1.08, at 1-38 n.4. For commentators who support the proprietary view see: RESTATEMENT (SECOND) LAW OF TRUSTS § 82 comment d (1959); 2 R. CALLMANN, UNFAIR COMPETITION AND TRADE MARKS § 14.02 (4th ed. 1982); 1 H. NIMS, UNFAIR COMPETITION AND TRADE-MARKS § 141, at 402 (4th ed. 1947); 4 R. POWELL, REAL PROPERTY ¶ 512, at 75, 76 n.13, ¶ 598, at 589 n.9 (1954); 5 S. WILLISTON, CONTRACTS § 1645 (3d ed. 1972).

33. 9A Z. CAVITCH, BUSINESS ORGANIZATIONS § 233.01[3], at 233-18 to -32 & nn. 30-36 (1981); R. ELLIS, TRADE SECRETS § 6, at 12 (1953 ed.); A. TURNER, THE LAW OF TRADE SECRETS § 3, at 12 (1962); Stedman, *Trade Secrets,* 23 OHIO ST. L.J. 4, 21 (1962). *See also* Correa, *Protection of Trade Secrets,* 18 BUS. LAW. 531, 532 (1963); *Developments in the Law—Competitive Torts,* 77 HARV. L. REV. 888, 948, 949 (1964).

34. *See supra* note 33.

35. Earlier cases often relied on the proprietary rationale of protecting the discovery. *See, e.g.,* Peabody v. Norfolk, 98 Mass. 452, 461 (1868); Tabor v. Hoffman, 118 N.Y. 30, 35, 23 N.E. 12, 12 (1889). More recent cases focused on the relationship of the parties. These courts used breach of confidence, unfair competition and implied contract theories as bases for relief. *See, e.g.,* Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 475 (1974) (breach of confidence); E.I. DuPont de Nemours Powder Co. v. Masland, 244 U.S. 100, 101 (1917) (same); Servo Corp. of Am. v. General Elec. Co., 337 F.2d 716, 724-25 (4th Cir. 1964) (same), *cert. denied,* 383 U.S. 934 (1966); Warner-Lambert Pharmaceutical Co. v. John J. Reynolds, Inc., 280 F.2d 197, 197 (2d Cir. 1960) (implied contract); Franke v. Wiltschek, 209 F.2d 493, 495 (2d Cir. 1953) (breach of confidence); Schreyer v. Casco Prods. Corp., 190 F.2d 921, 924 (2d Cir. 1951) (unfair competition), *cert. denied,* 342 U.S. 913 (1952); American Dirigold Corp. v. Dirigold Metals Corp., 125 F.2d 446, 522-53 (6th Cir. 1942) (implied contract); Stone v. Goss, 65 N.J. Eq. 756, 756, 55 A. 736, 736 (N.J. 1903) (same); Cameron Mach. Co. v. Samuel M. Langston Co., 115 A. 212, 214-15 (N.J. Ch. 1921) (same). For cases involving express contractual protection, see *infra* notes 70-71 and accompanying text.

"reap where they have not sown."[36]

III. TRADE SECRETS DEFINED

Although the theoretical basis of trade secret protection varies among the courts, the vast majority agree that the *Restatement of Torts* contains the most accurate definition of a trade secret: Any process or information which gives the possessor an "opportunity to obtain an advantage" over his competitor, and which does not constitute public knowledge.[37]

Drawing on the definition provided by the *Restatement*, courts have developed factors which help determine the existence of trade secrets. These factors include: the degree of secrecy involved inside and outside the firm; the methods used to protect the secret; the value of the secret to the firm's business and to its competitors; the extent of money, time and effort invested in developing the information that constitutes the secret; and the degree of difficulty by which another could attain

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36. International News Serv. v. Associated Press, 248 U.S. 215, 239 (1918).

Justice Holmes first expressed the fundamental fairness concept in Board of Trade v. Christie Grain Co., 198 U.S. 236 (1905): "The plaintiff has the right to keep the work which it has done, or paid for doing, to itself. The fact that others might do similar work, if they wished, does not authorize them to steal plaintiff's." *Id.* at 250. *See also* Pachmayr Gun Works, Inc. v. Olin Mathieson Chem. Corp., 502 F.2d 802, 807 (9th Cir. 1974), in which the court stated, "it appears settled that the law of trade secrets is essentially concerned with protecting 'against breach of faith and reprehensible means of learning another's secret.'" (quoting 4 RESTATEMENT OF TORTS § 757 comment b, at 7 (1939)). *See generally* R. ELLIS, *supra* note 33, § 12, at 19.

37. RESTATEMENT OF TORTS § 757 comment b (1939). Twenty eight states and all federal circuits accept this definition. 12 R. MILGRIM, *supra* note 29, § 2.01 n.2. THE RESTATEMENT (SECOND) OF TORTS excludes this section and, in fact, all of the chapter which formerly covered unfair competition and trade regulation. The reporters explained:

> [U]nfair competition and trade regulation were rapidly developing into independent
> bodies of law with diminishing reliance upon the traditional principles of Tort Law. . . .
> If it should be later decided that the law on these subjects ought to be restated it will be
> done by separate restatements on the subjects involved.

4 RESTATEMENT (SECOND) OF TORTS commentary at 1 (1979). *See* Amoco Prod. Co. v. Lindley, 609 P.2d 733, 743 n.4 (Okla. 1980) (recognizing Reporter's rationale for exclusion but stating that "tort premises are nonetheless an integral part of the developed case law of trade secrets"). *But see* Sims v. Mack Trucks, Inc., 463 F. Supp. 1068, 1070 (E.D. Pa. 1979) (although acknowledgement trade secret and unfair competition claims have basis in different legal theories, dismissing trade secret action as it had dismissed unfair competition action).

In Imperial Chem. Indus. Ltd. v. National Distillers & Chem. Corp., 342 F.2d 737 (2d Cir. 1965), the court similarly defined trade secrets: "[A] trade secret can exist in a combination of characteristics and components, each of which, by itself, is in the public domain, but the unified process, design or operation of which, in unique combination, affords a competitive advantage and is a protectable secret." *Id.* at 742.

the information by proper means.[38]

A trade secret need not be unique and may be clearly anticipated in "prior art."[39] Nevertheless, it must afford the holder an opportunity to obtain a competitive advantage.[40] Additionally, the information or process for which trade secret protection is sought must not be common knowledge within the industry or among the general public.[41] While novelty may help the possessor in proving the existence of a trade secret, it does not in itself constitute the basis of protection. Instead, courts base trade secret protection upon breach of confidentiality or unfair means of acquisition.[42]

Although the law of trade secrets does not require a discovery, some courts confuse the "advantage in the industry" requirement with uniqueness in the sense of discovery. Courts which mistakenly import such a requirement test the discovery by a standard which barely falls short of the uniqueness requirement necessary to establish patentabil-

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38. *See* 4 RESTATEMENT OF TORTS § 757 comment v (1939) [hereinafter cited as RESTATEMENT].

> An exact definition of a trade secret is not possible. Some facts to be considered in determining whether given information is one's trade secret are: (1) the extent to which the information is known outside of his 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.

Id.

39. Prior art means existing technology. A change which is "clearly anticipated in prior art" means a change or development which only minimally improves or alters the existing technology. 4 RESTATEMENT, *supra* note 38, comment b, at 6-7.

40. Organic Chem., Inc. v. Carroll Prod., Inc., 211 U.S.P.Q. 628, 630-31 (W.D. Mich. 1981); Pressure Science, Inc. v. Kramer, 413 F. Supp. 618, 626-27 (D. Conn.), *aff'd without opinion,* 551 F.2d 301 (2d Cir. 1976); Cudahy Co. v. American Laboratories, Inc., 313 F. Supp. 1339, 1342 (D. Neb. 1970); Sperry Rand Corp. v. Pentronix, Inc., 311 F. Supp. 910, 913 (E.D. Pa. 1970); Allis-Chalmers Mfg. Co. v. Continental Aviation & Eng'g Corp., 255 F. Supp. 645, 653 (E.D. Mich. 1966).

41. Sperry Rand Corp. v. Pentronix, Inc., 311 F. Supp. 910, 913 (E.D. Pa. 1970); Fortna v. Martin, 158 Cal. App. 2d 634, 640, 323 P.2d 146, 149 (1958); Victor Chem. Works v. Iliff, 299 Ill. 532, 546-47, 132 N.E. 806, 812 (1921).

> As technical information approaches pure science it comes closer to purely abstract ideas which should be part of the public domain. Similarly, it leaves the realm of employer's property and becomes a part of the intellect of the employee.

42. *See, e.g.,* Booth v. Stutz Motor Car Co. of Am., 56 F.2d 962, 968 (7th Cir. 1932); Cornibert v. Cohn, 169 Misc. 285, 287, 7 N.Y.S.2d 351, 354 (Sup. Ct. 1938). *See generally* RESTATEMENT, *supra* note 38, comment b, at 7 (Reporter's note that lack of novelty may limit defendant's liability to damages only, precluding injunctive relief).

ity.[43] The prevailing view, however, is that patentability is not a prerequisite to trade secret protection.[44]

For a protectable trade secret to exist, the owner must not only fulfill a secrecy requirement with regard to persons outside of his control,[45] but must also fulfill a secrecy requirement as to persons within the firm.[46] This internal secrecy requirement imposes an obligation on the employer to exercise reasonable precautionary measures to protect confidential information. The employer must develop and implement procedures which demonstrate to the employee the importance of not disclosing the information.[47] Adequate precautionary measures may consist of confidentiality agreements,[48] reminders of confidentiality[49]

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43. *See* Sarkes Tarzian, Inc. v. Audio Devices, Inc., 166 F. Supp. 250, 265 (S.D. Cal. 1958) (while trade secrets "need not amount to an invention, in the patent law sense, they must at least amount to discovery"), *aff'd,* 283 F.2d 659 (9th Cir. 1960), *cert. denied,* 365 U.S. 869 (1961). *See also* Smoley v. New Jersey Zinc Co., 106 F.2d 314 (3d Cir. 1939); Berry v. Gliddon Co., 92 F. Supp. 909 (S.D.N.Y. 1950); De Filippis v. Chrysler Corp., 53 F. Supp. 977 (S.D.N.Y. 1944), *aff'd,* 159 F.2d 478 (2d Cir.), *cert. denied,* 331 U.S. 848 (1947).

44. 4 RESTATEMENT, *supra* note 38.

For cases clearly distinguishing trade secret protection from patent protection, see Franke v. Wiltschek, 209 F.2d 493, 495 (2d Cir. 1953); Shellmar Prods. Co. v. Allen-Qualley Co., 36 F.2d 623, 625 (7th Cir. 1929); By-Buk Co. v. Printed Cellophane Tape Co., 163 Cal. App. 2d 157, 165-66, 329 P.2d 147, 152 (1958).

Cases in which courts have granted trade secret protection while invalidating patents for lack of novelty also illustrate this distinction. *See, e.g.,* Smith v. Dravo Corp., 203 F.2d 369, 380-81 (7th Cir. 1953); Schreyer v. Casco Prods. Corp., 190 F.2d 921, 923-24 (2d Cir. 1951), *cert. denied,* 342 U.S. 913 (1952); A.O. Smith Corp. v. Petroleum Iron Works Co., 73 F.2d 531, 538 (6th Cir. 1934), *modified,* 74 F.2d 934 (1935); Booth v. Stutz Motor Car Co. of Am., 56 F.2d 962, 963, 968 (7th Cir. 1932); Trenton Indus. v. A.E. Peterson Mfg. Co., 165 F. Supp. 523, 528-29, 532 (S.D. Cal. 1958).

45. *See* 9A Z. CAVITCH, *supra* note 33, § 232.01[1][b] (this element of the secrecy requirement labelled "external" secrecy).

46. *See id.* § 232.01[1][a] (this element labelled "internal" secrecy).

47. Hamilton Mfg. Co. v. Tubbs Mfg. Co., 216 F. 401, 407 (W.D. Mich. 1908); Aetna Bldg. Maintenance Co. v. West, 39 Cal. 2d 198, 206, 246 P.2d 11, 16 (1952).

48. *See* Sperry Rand Corp. v. Pentronix, Inc., 311 F. Supp. 910, 917-18 (E.D. Pa. 1970) (employees signed enforceable nondisclosure agreements); *cf.* Republic Sys. & Programming, Inc. v. Computer Assistance, Inc., 322 F. Supp. 619, 628 (D. Conn. 1970) (unenforceable employment agreements, lax precautions, and public dissemination of information by plaintiff), *aff'd,* 440 F.2d 996 (2d Cir. 1971).

49. *See* Telex Corp. v. International Business Machs. Corp., 367 F. Supp. 258, 330 (N.D. Okla. 1973) (reminder of confidentiality by extensive security measures and exit interviews), *rev'd on other grounds,* 510 F.2d 894 (10th Cir.), *cert. dismissed,* 423 U.S. 802 (1975); Comshare, Inc. v. Computer Complex, Inc., 338 F. Supp. 1229, 1232, 1234 (E.D. Mich. 1971) (same), *aff'd,* 458 F.2d 1341 (6th Cir. 1972); *cf.* Motorola, Inc. v. Fairchild Camera & Instrument Corp., 366 F. Supp. 1173, 1185-86 (D. Ariz. 1973) (secret fully revealed in patent application and employee not specifically warned of importance of confidentiality).

and numerous security measures.[50]

If the owner publicly discloses confidential information, he may not impose conditions of secrecy on his employees.[51] Nevertheless, limited disclosure to employees and others[52] in a confidential relationship with the owner does not destroy trade secret protection.[53]

Similarly, public disclosure by the sale of a product embodying the trade secret in a non-obvious manner does not relieve an existing obligation of confidentiality.[54] Some courts have extended the employee's obligation of confidentiality to situations in which the owner disclosed the trade secret by means other than sale.[55] Other courts have refused to grant trade secret protection in this circumstance, however, on the

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50. *See* Telex Corp. v. International Business Machs. Corp., 367 F. Supp. 258, 330 (N.D. Okla. 1973) (magnetic door locks; information designated as confidential; guards; television cameras; safes and computer controlled access systems), *rev'd on other grounds,* 510 F.2d 894 (10th Cir.) *cert. dismissed,* 423 U.S. 802 (1975); Comshare, Inc. v. Computer Complex, Inc., 338 F. Supp. 1229, 1232, 1234 (E.D. Mich. 1971) (information designated confidential; safes; intra-system passwords), *aff'd,* 458 F.2d 1341 (6th Cir. 1972).

51. *See* Skoog v. McCray Refrigerator Co., 211 F.2d 254, 257 (7th Cir. 1954); Sperry Rand Corp. v. Pentronix, Inc., 311 F. Supp. 910, 918 (E.D. Pa. 1970); Wissman v. Boucher, 150 Tex. 326, 330, 240 S.W.2d 278, 279-80 (1951).

52. "Others" refers to those who have a contractual right or permission of the owner to use the trade secret, but who do not work for the owner. *See infra* note 53.

53 Board of Trade v. Christie Grain & Stock Co., 198 U.S. 236, 247 (1905) (distribution to 1800 members of commodity exchange did not impair validity of trade secret); Data General Corp. v. Digital Computer Controls, Inc., 357 A.2d 105, 108 (Del. Ch. 1975) (distribution to 6000 vendors and customers who signed secrecy agreements did not impair validity of trade secret).

54. *See* Head Ski Co. v. Kam Ski Co., 158 F. Supp. 919, 923 (D. Md. 1958) (although ski publicly available, defendants learned its composition from working for plaintiff, not by reverse engineering); Maas & Waldstein Co. v. Walker, 100 N.J. Eq. 224, 229, 135 A. 275, 277 (1926) (chemical formulas for lacquers were generally known, but plaintiff's variations were secret and warranted protection), *aff'd per curiam,* 102 N.J. Eq. 328, 140 A. 921 (N.J. 1928); Stone v. Goss, 65 N.J. Eq. 756, 760, 55 A. 736, 738 (N.J. 1903) (where general ingredients of chemical formula generally known, but particular combination not generally known, plaintiff entitled to trade secret protection); Tabor v. Hoffman, 118 N.Y. 30, 37, 23 N.E. 12, 13 (1889) (public sale of pump did not make secret pattern for pump mold public); Extrin Foods, Inc. v. Leighton, 202 Misc. 592, 597, 115 N.Y.S.2d 429, 433 (Sup. Ct. 1952) (inclusion of ingredients on plaintiff's product label does not preclude trade secret protection); *cf.* Colgate-Palmolive Co. v. Carter Prods., Inc., 230 F.2d 855, 865 (4th Cir. 1956) (because technical process well-known in industry, defendant not liable for misappropriation of process even though he learned of it from former employer and communicated it to new employer).

55. Board of Trade v. Christie Grain & Stock Co., 198 U.S. 236, 247 (1905) (distribution to 1800 members of commodity exchange); Sun Dial Corp. v. Rideout, 16 N.J. 252, 256, 108 A.2d 442, 446 (1954) (revealed in trade magazine article); L.M. Rabinowitz & Co., Inc. v. Dasher, 82 N.Y.S.2d 431, 437-38 (Sup. Ct. 1948) (machines leased and visitors allowed inside plant). *See also* California Intelligence Bureau v. Cunningham, 83 Cal. App. 2d 197, 204, 188 P.2d 303, 306-08 (1948) (dicta) (formerly disseminated information still protected).

theory of abandonment.[56] If an employee cannot prove that the owner intended to abandon the trade secret, the court must determine the amount of confidential information which still warrants protection.[57]

Courts also consider the effort incurred in initially developing an item of confidential business information when attempting to determine if trade secret protection is warranted.[58] A finding that substantial effort was required to develop confidential information militates in favor of extending trade secret protection. If such a finding is made, a majority of courts grant trade secret protection even if appropriated information could be acquired easily by experimentation or reverse engineering.[59]

The lack of a single conceptual basis for trade secret protection and the inconsistent application of its constituent elements has created confusion among courts; adding the variable of employee disclosure further complicates trade secret protection analysis.

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56. Abandonment occurs when the owner no longer intends to exert his legal right to protect confidential material. Timely Prods. Corp. v. Arron, 523 F.2d 888 (2d Cir. 1975); Underwater Storage, Inc. v. United States Rubber Co., 371 F.2d 950 (D.C. Cir. 1966), *cert. denied,* 386 U.S. 911 (1967); Note, *Protection and Use of Trade Secrets,* 64 HARV. L. REV. 976, 977 (1951).

One court inferred the owner's intent to abandon a trade secret when he unconditionally sold a product which revealed allegedly secret information. William A. Meier Glass Co. v. Anchor Hocking Glass Corp., 95 F. Supp. 264, 267 (W.D. Pa. 1951).

57. This question must be decided as a factual matter. *See* Note, *supra* note 56, at 977.

58. The "effort expended" includes the expense and time invested in developing the information. Board of Trade v. Christie Grain & Stock Co., 198 U.S. 236, 245 (1905); Lee v. Samburn, 94 U.S.P.Q. 153, 156 (Cal. Super. Ct. 1952).

59. Smith v. Diavo Corp., 203`F.2d 369, 374 (7th Cir. 1953). *See* Franke v. Wiltschek, 209 F.2d 493, 495 (2d Cir. 1953); A.O. Smith Corp. v. Petroleum Iron Works Co., 73 F.2d 531, 538-39 (6th Cir. 1934), *modified,* 74 F.2d 934 (6th Cir. 1935); International Indus., Inc. v. Warren Petroleum Corp., 99 F. Supp. 907, 913-14 (D. Del. 1951); By-Buk Co. v. Printed Cellophane Tape Co., 163 Cal. App. 2d 157, 166-67, 329 P.2d 147, 152-53 (1958); Extrin Foods, Inc. v. Leighton, 202 Misc. 592, 597, 115 N.Y.S.2d 429, 433 (Sup. Ct. 1952); K & G Tool & Serv. Co. v. G&G Fishing Tool Serv., 158 Tex. 594, 602, 314 S.W.2d 782, 787 (1958).

A minority of courts have refused to grant protection when reverse engineering easily reveals the confidential information. These courts reason that the employee's right to practice a profession outweighs the owner's right to protection. Continental Car-Na-Var Corp. v. Moseley, 24 Cal. 2d 104, 148 P.2d 9 (1944); Levine v. E. A. Johnson & Co., 107 Cal. App. 2d 322, 237 P.2d 309 (1951); New Method Die & Cut-Out Co. v. Milton Bradley Co., 289 Mass. 277, 194 N.E. 80 (1935); Richard M. Krause, Inc. v. Gardner, 99 N.Y.S.2d 592 (Sup. Ct. 1950).

IV. Trade Secret Protection and the Employment Relationship

A. Generally

Employers may protect their trade secrets either by exacting a non-disclosure contract from each key employee,[60] or by relying on the common law of agency.[61] Under the common law of agency, the employee has a duty not to reveal any confidential information which he acquired through his employment.[62] Confidential information is held in trust for the employer.[63] When the agency relationship ends, the former agent may freely compete with the former employer as long as he does not use trade secret information acquired in the course of the former employment.[64]

Courts have had difficulty, however, balancing the employee's right to change jobs with the employer's interest in protecting trade secrets

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60. *See infra* note 70 and accompanying text.

61. *See, e.g.,* Westervelt v. National Paper & Supply Co., 154 Ind. 673, 678-79, 57 N.E. 552, 554 (1900); Space Aero Prods. Co. v. R.E. Darling Co., Inc., 238 Md. 93, 115, 208 A.2d 74, 85, *cert. denied,* 382 U.S. 843 (1965).

62. RESTATEMENT (SECOND) AGENCY § 395 (1958). *See, e.g.,* International Election Sys. Corp. v. Shoup, 452 F. Supp. 684, 705-06 (E.D. Pa. 1978); Crocan Corp. v. Sheller-Globe Corp., 385 F. Supp. 251, 253 (N.D. Ill. 1974); Textile Rubber & Chem. Co. v. Shook, 243 Ga. 587, 589, 255 S.E. 2d 705, 707 (1979); Packard Instrument Co. v. Reich, 89 Ill. App. 3d 908, 916-17, 412 N.E.2d 617, 623 (1980); Scott & Fetzer Co. v. Khan, 74 Ill. App. 3d 400, 406, 393 N.E.2d 102, 106 (1979); Auxton Computer Enters., Inc. v. Parker, 174 N.J. Super. 418, 423, 416 A.2d 952, 955 (App. Div. 1980).

63. Franke v. Wiltschek, 209 F.2d 493, 495 (2d Cir. 1953); By-Buk Co. v. Printed Cellophane Tape Co., 163 Cal. App. 2d 157, 164-65, 329 P.2d 147, 151 (1958); Allen Mgf. Co. v. Loika, 145 Conn. 509, 512-13, 144 A.2d 306, 309 (1958); Taylor Iron & Steel Co. v. Nichols, 73 N.J. Eq. 684, 685, 65 A. 695, 696 (Ch. 1907); Extrin Foods v. Leighton, 202 Misc. 592, 593, 115 N.Y.S.2d 429, 434 (Sup. Ct. 1952); Rubner v. Gurnsky, 21 N.Y.S.2d 558, 561 (Sup. Ct. 1940); Stimson Lumber Co. v. Laurence-David, Inc., 224 Or. 447, 449-50, 356 P.2d 84, 86 (1960).

64. *See* 2 RESTATEMENT (SECOND) OF AGENCY § 396 comment f (1958); 4 RESTATEMENT, *supra* note 38, § 757(c); By-Buk Co. v. Printed Cellophane Tape Co., 163 Cal. App. 2d 157, 164-65, 329 P.2d 147, 151 (1958); Stone v. Goss, 65 N.J. Eq. 756, 759-60, 55 A. 736, 737-38 (N.J. 1903). *Cf.* Herold v. Herold China & Pottery Co., 257 F. 911, 913 (6th Cir. 1919) (injunctive relief available to prevent use of confidential information by third party); Cornibert v. Cohn, 169 Misc. 285, 286-87, 7 N.Y.S.2d 351, 353-54 (Sup. Ct. 1938) (same).

As long as the employee acts fairly, he may not only compete in the same business as his former employer but may even transact business with the former employer's customers. *See* Continental Car-Na-Var Corp. v. Moseley, 24 Cal. 2d 104, 148 P.2d 9 (1944); Ancraft Prods. Co. v. Universal Oil Prods. Co., 84 Ill. App. 3d 836, 405 N.E.2d 1162 (1980); Tad, Inc. v. Siebert, 63 Ill. App. 3d 1001, 380 N.E.2d 963 (1978); Auxton Computer Enters. Inc. v. Parker, 174 N.J. Super. 418, 416 A.2d 952 (App. Div. 1980); 2 RESTATEMENT (SECOND) OF AGENCY, *supra*. *See also* 12 R. MILGRIM, *supra* note 29, at § 5.02[3], at 5-21 n.29.

under the common law of agency.[65] Because the common law recognizes the former employee's right to practice any chosen calling, an employer may not unreasonably restrain the manner in which an employee uses knowledge, skill and experience acquired during his employment.[66] The employee does not incur liability, therefore, when the former employer merely alleges that the employee's general skill and knowledge "belonged" to the employer as a trade secret.[67] When the employee's skill, knowledge, and experience are inextricably combined with the employer's trade secrets, however, the question of liability becomes more difficult to determine. The former employer may not completely enjoin the former employee from seeking employment in the same field.[68] Nevertheless, if the former employer proves that he will suffer irreparable damage if the former employee uses particular knowledge or skills, courts will usually enjoin the employee from revealing that information.[69]

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65. Public policy favors free competition by giving the employee a right to use his skill and knowledge for his own benefit and for the benefit of the public. On the other hand, courts wish to promote inventiveness by protecting employer's trade secrets from misappropriation. *See* C. McMANIS, *supra* note 24. *See also* U.S CONST. Art I, § 8, cl. 8 (patent clause protects inventiveness while promoting free competition).

66. Levine v. E. A. Johnson & Co., 107 Cal. App. 2d 322, 325, 237 P.2d 309, 312 (1951); Donahue v. Permacel Tape Corp., 234 Ind. 398, 412, 127 N.E.2d 235, 240 (1955) (dictum); Roy v. Bolduc, 140 Me. 103, 107, 34 A.2d 479, 481 (1943) (dictum); Junker v. Plummer, 320 Mass. 76, 78, 67 N.E.2d 667, 669 (1946); Wireless Specialty Apparatus Co. v. Mica Condenser Co., 239 Mass. 158, 161-62, 131 N.E. 307, 308 (1921); Richard M. Krause, Inc. v. Gardner, 99 N.Y.S.2d 592, 595 (Sup. Ct. 1950); Fairchild Engine & Airplane Corp. v. Cox, 50 N.Y.S.2d 643, 650-51 (Sup. Ct. 1944). *See also* 12 R. MILGRIM, *supra* note 29, § 5.02[3], at 5-17 n.28.

67. Wilson Certified Foods, Inc. v. Fairbury Foods Prods., Inc., 370 F. Supp. 1081, 1083 (D. Neb. 1974); Midland-Ross Corp. v. Sunbeam Equip. Corp., 316 F. Supp. 171, 177 (W.D. Pa.), *aff'd per curiam,* 435 F.2d 159 (3d Cir. 1970); Cudahy Co. v. American Laboratories, Inc., 313 F. Supp. 1339, 1345 (D. Neb. 1970); Koehring Co. v. National Automatic Tool Co., 257 F. Supp. 282, 290 (S.D. Ind. 1966), *aff'd per curiam,* 385 F.2d 414 (7th Cir. 1967); Gabriel Co. v. Talley Indus., 137 U.S.P.Q. 630 (D. Ariz. 1963); Berkshire Apparel Co. v. Stogel, 360 Mass. 863, 277 N.E.2d 310 (1971); Kidde Sales & Serv., Inc. v. Peirson, 493 S.W.2d 326, 330 (Tex. Civ. App. 1973).

68. *See supra* notes 64-66 and accompanying text.

69. *See, e.g.,* B.F. Goodrich Co. v. Wohlgemuth, 117 Ohio App. 493, 499, 192 N.E.2d 99, 105 (1963) (enjoined from revealing particular details of plaintiff's spacesuit manufacturing process); Trilog Assoc., Inc. v. Famularo, 455 Pa. 243, 250-56, 314 A.2d 287, 291-94 (1974) (court carefully distinguished between permissible use of general knowledge gained while working at former employer's business and impermissible use of specific confidential information acquired in this fashion).

A few courts have refused to grant the former employer any relief, even though he could prove that he confidentially imparted the knowledge or skill to his former employee. *See* Reed, Roberts Assocs., Inc. v. Strauman, 40 N.Y.2d 303, 308-09, 353 N.E.2d 590, 593-94, 386 N.Y.S.2d 677, 680-81 (1976) (former employer cannot restrain former employee from using unique variation of gen-

Because of the uncertainty of common law protection, employers often acquire protection through contracts which limit the employee's right to disclose confidential information. Courts usually find nondisclosure agreements valid and enforceable.[70] If the agreement is not reasonably necessary to protect the employer's interest, however, courts will find it invalid.[71]

B. Trade Secret Protection in the Computer Industry Employment Relationship

The difficulties employers encounter in attempting to protect their trade secrets are particularly acute in the computer industry. The problem of protecting computer hardware[72] and computer software[73] from acquisition by competing firms has caused considerable debate among commentators.[74] Since the mid-1940's the computer industry has

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eral practice); Sybron Corp. v. Wetzel, 61 A.D.2d 697, 702-04, 403 N.Y.S.2d 931, 934-35 (former employer cannot restrain former employee from using highly specialized skill which he learned during 34 years of employment with plaintiff), *modified,* 46 N.Y.2d 197, 385 N.E.2d 1055, 413 N.Y.S.2d 127 (1978); Wexler v. Greenberg, 399 Pa. 569, 575, 160 A.2d 430, 433 (1970) (former employer cannot restrain former employee from using formulas which he reverse engineered for plaintiff in his new employment with plaintiff's competitor; formulas held to be within defendant's knowledge, skill and experience); Lamons Metal Gasket Co. v. Traylor, 135 U.S.P.Q. 231, 232 (Tex. Civ. App. 1962) (former employer cannot restrain former employee from using machines he developed which did not qualify as trade secrets).

70. Sperry Rand Corp. v. Rothlein, 241 F. Supp. 549, 564 (D. Conn. 1964); Julias Hyman & Co. v. Velsicol Corp., 123 Colo. 563, 587, 233 P.2d 977, 1002, *cert. denied,* 342 U.S. 870 (1951); Peabody v. Norfolk, 98 Mass. 452, 453-54 (1868); O.&W. Thum Co. v. Tloczynski, 114 Mich. 149, 160-61, 72 N.W. 140, 144 (1897); Stone v. Goss, 65 N.J. Eq. 756, 759, 55 A. 736, 736-37 (N.J. 1903); Clark Paper & Mfg. Co. v. Stenacher, 236 N.Y. 312, 317-18, 140 N.E. 708, 711 (1923).

71. *See, e.g.,* Julias Hyman & Co. v. Velsicol Corp., 123 Col. 563, 587, 233 P.2d 977, 1001-02, *cert. denied,* 342 U.S. 870 (1951); Taylor Iron & Steel Co. v. Nichols, 73 N.J. Eq. 684, 685, 69 A. 186, 187 (N.J. 1908).

72. The machinery components of the computer system constitute the computer hardware (e.g. printer, disk-drive, tape drive, etc.). Note, *Protection of Computer Software – A Hard Problem,* 26 DRAKE L. REV. 180, 180 n.1 (1977).

73. The term computer software refers to computer programs. "A [computer] program is a set of instructions for carrying out prearranged operations on data by use of processing equipment." *In re* Ghiron, 442 F.2d 985, 986 (C.C.P.A. 1971). The computer program is the concept, method or process which belongs to the employer. *Id. See generally* B. MEEK & S. FAIRTHOUSE, USING COMPUTERS 58 (1977).

74. *See, e.g.,* D. BROOKS, COMPUTER LAW, PURCHASING, LEASING AND LICENSING HARD-WARE, SOFTWARE, AND SERVICES 17-27 (1980); Bender, *Trade Secret Protection of Software,* 38 GEO. WASH. L. REV. 909, 909 (1970); Bigelow, *Legal Protection of Software: A Matter of Monumental Insignificance?,* [1978] 3 COMPUTER LAW SERV. (Callaghan) § 4-1, art. 5, at 120; Kesler & Hardy, *Legal Protection of Software in the United States: A Status Report,* 10 INT'L BUS. LAW. 266, 266 (1982); Davidson, *Protecting Computer Software: A Comprehensive Analysis,* 23 JURIMETRICS

grown substantially.[75] As software increasingly replaces hardware functions,[76] research and development incentives continue to rise in the software industry.[77] Unfortunately, with this rapid expansion of technology has come an equally rapid increase in software misappropriation by employees and users.[78]

J. 340, 386 (1983); Milgrim, *Protecting and Licensing Software, reprinted in* 12A R. MILGRIM, *supra* note 29, app. A-1, at A-1-1 to A1-2 (1982); Pope & Pope, *Protection of Proprietary Interests in Computer Software,* 30 ALA. L. REV. 527, 528-29 (1979); Schmidt, *Legal Proprietary Interests in Computer Programs: The American Experience,* 21 JURIMETRICS J. 345, 345-47 (1981).

Congress has even considered the problem. *See* NATIONAL COMMISSION ON NEW TECHNICAL USES OF COPYRIGHTED WORKS, FINAL REPORT, July 31, 1978, *reprinted in* 12A R. MILGRIM, *supra* note 29, at app. B-3.

75. Scientists developed the first electronic computer using vacuum tubes in 1946. This computer used hard-wire control boards and machine code (i.e., only hardware) to program the computer. *See supra* note 1.

In the early 1950's, Remington and IBM each developed a commercial computer using some internal programs written in symbolic code (i.e. software). Brooks, *Perfecting and Protecting Rights in Employee Inventions,* in COMPUTER FINANCE AND LEASING: RECENT TRENDS IN FINANCING AND MARKETING 611, 621 (M. Berwind ed. 1982). During this period manufacturers "gave away" the software as part of the hardware package. *Id.* at 621-22. In 1969, the practice of giving software away ended as firms which manufactured only software moved into the field. Since that year, the software industry has expanded remarkably. Due to this rapid expansion, figures are difficult to acquire. One author estimated, however, that the industry only spent $3 billion developing computer software in 1967. Kayton, *Foreward* to SOFTWARE PROTECTION at 1 (Patent Group ed. 1969). In 1976, experts estimated the value of computer programs in use at approximately $43.1 billion, and projected the figure to rise to $79.7 billion by 1980. Parker v. Flook, 437 U.S. 584, 587 n.7 (1978) (based on Brief for Computer & Business Manufacturing Association as *Amicus Curiae*).

76. Prior to 1975, software accounted for only 10-20% of the cost of a computer with a main frame system. Brooks, *supra* note 75, at 622. With the development in 1975 of the micro-computer, software costs increased to 30-40% of the total cost of a system. *Id.* As the hardware size decreases, software absorbs its tasks, thereby increasing its share of the costs. In the next five years, analysts expect hardware costs to drop by 80% as software continues to replace hardware functions. *Id.*

> Today's microcomputer, at a cost of perhaps $300, has more computing capacity than the first large electronic computer, ENIAC. It is 20 times faster, has a larger memory, is thousands of times more reliable, consumes the power of a light bulb rather than that of a locomotive, occupies 1/30,000 of the volume and costs 1/10,000 as much.

Noyce, *Microelectronics,* SCI. AM., Sept. 1977, at 63, 65.

77. "In an industry whose product declines in price by 25 percent a year, the motivation for doing research and development is clearly high. A year's advantage in introducing a new product or new process can give a company a 25 percent cost advantage over competing companies." Noyce, *supra* note 76, at 68.

There is also an acute shortage of qualified personnel capable of creating and improving computer programs. Today, the industry demands at least 50,000 more programmers than the market provides each year. *Missing Computer Software,* BUS. WK., Sept. 1, 1980, at 46-56. Furthermore, experts project a labor cost increase of 60% over the next five years. Brooks, *supra* note 75, at 623.

78. *See, e.g., 11 Charged in Theft of IBM Disk Designs,* COMPUTERWORLD, July 11, 1973, at 27, col. 2; *Girl Charged in Program Threat,* COMPUTERWORLD, Aug. 1, 1973, at 1, col. 3; *More*

Employers have attempted to use patents to protect their software from misappropriation, but the patentability of software remains uncertain.[79] In the 1970's, the Supreme Court denied patent protection to computer software.[80] More recently, the Court has sustained patents that possessed a software component.[81] Nevertheless, because the Court has not expressly overruled earlier decisions denying patent protection for software, lower courts may continue to deny such protection. Moreover, many programs lack the elements of novelty and nonobviousness required by statute[82] to attain patent protection.

Employers have also tried to use federal copyright law[83] to protect their software. Before 1980, the protection of computer programs under the 1976 Copyright Act was questionable.[84] In 1980, Congress

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Work Needed to Solve Problem of Data Security, COMPUTERWORLD, Supp. May 27, 1970, at 6, col. 1; *California Man Charged with Trying to Extort Cash from Control Data*, Wall. St. J., Aug, 18, 1982, at 8 col. 4; Pollack, *The Bitter War in Computers*, N. Y. Times, June 24, 1982, D1, col. 1; Shannon, *Copycatting in the Software Patch*, N. Y. Times, May 9, 1982, at 17, col. 1.

79. *See* Davidson, *supra* note 74, at 348-60; Rose, *Protection of Intellectual Property in Computers and Computer Programs: Recent Developments*, 9 PEPP. L. REV. 547, 556-58 (1982).

To acquire patent protection an inventor must demonstrate that the invention is a "new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof", that the invention has not already been thought of by others; and that the invention was not obvious to one familiar with prior art. 35 U.S.C. §§ 101-03 (1976 & Supp. IV 1980).

80. In Gottschalk v. Benson, 409 U.S. 63 (1972), the Court found that a process for converting binary coded decimal numbers into pure binary numbers performed completely within the computer did not constitute patentable subject matter. The Court viewed the process as simply a mathematical algorithm, and analogized it to the unpatentable discovery of a law of nature. Four years later the Court avoided the patentability issue by declaring that an arguably innovative computer bookkeeping system could not acquire patent protection because similar systems existed in prior art. Dann v. Johnston, 425 U.S. 219 (1976). The Court further reinforced this line of authority in Parker v. Flook, 437 U.S. 584 (1978), in which the claimants had devised a computer program that applied an algorithm to a problem and then acted to correct the problem. The Court, relying on *Gottschalk*, held that the addition of a post-solution activity did not render the process patentable.

81. Diamond v. Diehr, 450 U.S. 175, 187 (1981) (5-4) (otherwise patentable subject matter does not become unpatentable simply because it used a mathematical formula, computer or digital computer); Dawson Chemical Co. v. Rohm & Haas, 448 U.S. 176, 182 (1980) (5-4) (process involving independently unpatentable material validly patented as a herbicide); Diamond v. Chakrabarty, 447 U.S. 303, 313 (1980) (5-4) (man-made micro-organism validly patentable material). *Cf. In re Bradley*, 600 F.2d 807, 811 (C.C.P.A. 1979), *aff'd mem. by equally divided court sub nom.* Diamond v. Bradley, 450 U.S. 381 (1981) (4-4 Burger, C.J. abstaining) (not all computer programs are nonstatutory subject matter).

82. 35 U.S.C. §§ 101, 102, 103 (1976 & Supp. IV 1980). *See supra* note 79.

83. 17 U.S.C. § 102(a) (1976 & Supp. IV 1980). The federal copyright statute protects the originator's work from duplication by unauthorized persons if it is fixed in any tangible medium from which it can be perceived, reproduced or otherwise communicated. *Id.* § 102(c).

84. *See* Data Cash Sys., Inc. v. JS&A Group, Inc., 480 F. Supp. 1063 (N.D. Ill. 1979)

expressly amended the 1976 Act[85] to include computer programs.[86] This amendment eliminated questions of coverage in situations involving copying by mechanical methods.[87] The amendment did not, however, solve the problem of protecting programs that did not fulfill the originality, authorship and fixation requirements of the Act.[88]

The uncertainty of traditional statutory protection for computer software has caused many firms to seek trade secret protection.[89] If a

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(mechanical copying of registered memory chip for electronic chess game not copyright infringement), *aff'd expressly and solely on grounds of insufficient copyright notice,* 628 F.2d 1038 (7th Cir. 1980). In White-Smith Music Publishing Co. v. Appollo Co., 201 U.S. 1 (1908), the Supreme Court held that copying sheet music onto a player piano roll did not constitute a copyright infringement. The Court reasoned that the statute was only designed to protect materials from copying accomplished by eye-readable methods. Because the player piano roll was not readable by the human eye, no infringement had occurred. Thus, copyright protection for computer products under the 1976 Act was negligible because of the ease with which these products may be copied by non-eye-readable methods. The registered memory chip in *Data Cash Systems* was not eye-readable and was copied by mechanical methods.

85. Act of Dec. 12, 1980, Pub. L. No. 96-517, § 117, 94 Stat. 3015 (1980).

86. 17 U.S.C. § 117 (1976), *amended by* 17 U.S.C. § 117 (Supp. IV 1980).

87. *See* Apple Computer, Inc. v. Franklin Computer Corp., No. 82-1582 (3d Cir. Aug. 30, 1983) (object code valid subject of copyright protection).

88. *See supra* note 83 and accompanying text.

89. A 1977 survey of software firm executives who belonged to the Association of Data Processing Service Organizations revealed that these firms considered contractual methods of protection effective. (See Table I). Interestingly, however, the firms preferred non-legal, technical methods of protection. The firms found that using object-code-only programs most effectively protected their software products. Bigelow, *supra* note 74. The computer generates object code from the instructions given it by the programmer. Object code is not intelligible to the lay person and is specifically adapted to the computer which produced it. Note, *supra* note 72, at 182-83 nn.25-6 (1977).

TABLE I.   EFFECTIVENESS OF SOFTWARE PROTECTION

Method	Weighted Response (Scale of 0-5)	Percent Using	Effective Use
Patent	0.54	4	2.2
Copyright	1.48	20	29.6
Trade Secret	2.31	21	48.5
Object program	3.54	30	106.2
Know-how	2.46	13	32.0
Cryptography	1.24	40	49.6
Other	3.28	17	55.8

To rate the effectiveness of the methods of protection used, each organization that used a specific method was asked to categorize the method as follows: not at all effective, rarely effective, somewhat effective, fairly effective, very effective, completely effective. Table I shows a weighted average to the response, where *not at all effective* is "O" and *completely effective* is '5'. The second column is the percent using the method, and the third column is obtained by multiplying the first two together.

Bigelow, *supra* note 74, at 120 (emphasis in original).

program affords a firm an opportunity to gain a competitive advantage in the industry and the firm succeeds in maintaining secrecy, the program constitutes a trade secret[90] and may be protected under the common law of trade secrets.[91]

While the common law of trade secrets protects software, whether its protection redounds to the benefit of the employer or employee remains uncertain. Courts addressing this question have uniformly applied a two part test: whether the computer program deserves trade secret protection;[92] and, whether the employee had a contractual or common law duty not to disclose the information.[93]

Although courts apply a uniform test, they reach varying results. Of the courts which find software protectable as a trade secret, a majority grant protection to the employer regardless of who developed the program.[94] A minority of courts that grant software trade secret protec-

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90. *See supra* notes 37-59 and accompanying text.

91. *Id.*

92. In the following cases, courts found that the software constituted a trade secret: Structural Dynamics Corp. v. Engineering Mechanics Research Corp., 401 F. Supp. 1102, 1118 (E.D. Mich. 1975); Telex Corp. v. International Business Machs. Corp., 367 F. Supp. 258, 321-24 (N.D. Okla. 1973), *rev'd on other grounds,* 510 F.2d 894, 929 (10th Cir.), *cert. denied,* 423 U.S. 802 (1975); Com-Share, Inc. v. Computer Complex, Inc., 338 F. Supp. 1229, 1235 (E.D. Mich. 1971), *aff'd,* 458 F.2d 1341 (5th Cir. 1972) (per curiam); Cybertek Computer Prods., Inc. v. Whitfield, 203 U.S.P.Q. 1020, 1022 (Cal. Super. Ct. 1977); Computer Print Sys., Inc. v. Lewis, 281 Pa. Super 240, 250, 422 A.2d 148, 153 (1980); J & K Computer Sys., Inc. v. Parrish, 642 P.2d 732, 735 (Utah 1982). In the following cases, the court concluded that the software did not constitute a trade secret: Electronic Data Sys. Corp. v. Kinder, 360 F. Supp. 1044 (N.D. Tex. 1973), *aff'd,* 497 F.2d 222, 224 (5th Cir. 1974); National Sur. Corp. v. Applied Sys., Inc., 418 So. 2d 847, 849 (Ala. 1982); Jostens, Inc. v. National Computer Sys., 318 N.W.2d 691, 699 (Minn. 1982); Amoco Prod. Co. v. Lindley, 609 P.2d 733, 744 (Okla. 1980).

93. For cases in which courts have found such a duty to exist, see Structural Dynamics Corp. v. Computer Complex, Inc., 401 F. Supp. 1102, 1112 (E.D. Mich. 1975) (by express contact but not by confidential relationship); Telex Corp. v. International Business Machs. Corp., 367 F. Supp. 258, 323-24 (N.D. Okla. 1973) (both by express contract and by confidential relationship), *rev'd on other grounds,* 510 F.2d 894, 929 (10th Cir.), *cert. denied,* 423 U.S. 802 (1975); Electronic Data Sys. Corp. v. Kinder, 360 F. Supp. 1044, 1049 (N.D. Tex. 1973) (express contract), *aff'd,* 497 F.2d 222, 224 (5th Cir. 1974); Com-Share, Inc. v. Computer Complex, Inc., 338 F. Supp. 1229, 1235 (E.D. Mich. 1971) (express contract), *aff'd,* 458 F.2d 1341 (5th Cir. 1972) (per curiam); Cybertek Computer Prods., Inc. v. Whitfield, 203 U.S.P.Q. 1020, 1023 (Cal. Super. Ct. 1977) (by express contract); Computer Print Sys. Inc. v. Lewis, 281 Pa. Super. 240, 250, 422 A.2d 148, 153 (1980) (by confidential relationship only); J & K Computer Sys., Inc. v. Parrish, 642 P.2d 732, 734 (Utah 1982) (by confidential relationship). For cases in which the courts did not find any employee duty to protect, see Jostens, Inc. v. National Computer Sys., 318 N.W.2d 691, 701-03 (Minn. 1982) (not bound by express contract since material disclosed not trade secret); Amoco Prod. Co. v. Lindley, 609 P.2d 73, 745 (Okla. 1980) (same).

94. *See* Structural Dynamics Corp. v. Engineering Mechanics Research Corp., 401 F. Supp.

tion, however, hold that when an employee develops the trade secret, he has no duty to keep the information confidential.[95] On the other hand, a majority of courts that deny trade secret protection to computer programs conclude that an employee incurs no liability for disclosing information regarding a program to third parties.[96] A few courts, however, protect such information from disclosure by an employee, even in the absence of a trade secret.[97]

An example of a case in which a court found employees who developed a program liable for impermissible disclosure of their former employer's trade secrets is *Telex Corp. v. International Business Machines Corp. (IBM)*.[98] In this case, Telex induced several of IBM's key employees to join its firm. These former IBM employees revealed to Telex a new source code[99] which they had helped develop for IBM. By hiring away IBM's key employees, Telex saved $10 million in development costs.[100] The court ruled that the source code constituted a trade secret,[101] and that the employees had breached their express contract with IBM and the confidential relationship they had developed with that

1102 (E.D. Mich. 1975); Telex Corp. v. International Business Machs. Corp., 367 F. Supp. 258 (N.D. Okla. 1973), *rev'd on other grounds,* 510 F.2d 894 (10th Cir.), *cert. denied,* 423 U.S. 802 (1975); Com-Share, Inc. v. Computer Complex, Inc., 338 F. Supp. 1229 (E.D. Mich. 1971), *aff'd,* 458 F.2d 1341 (5th Cir. 1972) (per curiam); National Sur. Corp. v. Applied Sys., Inc., 418 So. 2d 847 (Ala. 1982); Cybertek Computer Prods., Inc. v. Whitfield, 203 U.S.P.Q. 1020 (Cal. Super. Ct. 1977); Computer Print Sys., Inc. v. Lewis, 281 Pa. Super. 240, 422 A.2d 148 (1980); J & K Computer Sys., Inc. v. Parrish, 642 P.2d 732 (Utah 1982).

95. *See* Structural Dynamics Corp. v. Engineering Mechanics Research Corp., 401 F. Supp. 1102, 1111-12 (E.D. Mich. 1975). *See also* Manos v. Melton, 358 Mich. 500, 100 N.W.2d 235 (1960) (employee entitled to use valuable techniques learned during former employment in new job); Wexler v. Greenberg, 399 Pa. 569, 160 A.2d 430 (1960) (chemist hired to reverse engineer formulas entitled to use those formulas in new employment).

96. Electronic Data Sys. Corp. v. Kinder, 360 F. Supp. 1044, 1049 (N.D. Tex. 1973), *aff'd,* 497 F.2d 222 (5th Cir. 1974); Jostens, Inc. v. National Computer Sys., 318 N.W.2d 691, 702 (Minn. 1982); Amoco Prod. Co. v. Lindley, 609 P.2d 733, 744-45 (Okla. 1980).

97. National Sur. Corp. v. Applied Sys., Inc., 418 So.2d 847, 849-50 (Ala. 1982) (based on theory of conversion); Cybertek Computer Prods. Inc. v. Whitfield, 203 U.S.P.Q. 1020, 1023 (Cal. Super. Ct. 1977) (contract can require secrecy of that which is not subject to trade secret protection).

98. 367 F. Supp. 258 (N.D. Okla. 1973), *rev'd on other grounds,* 510 F.2d 894 (10th Cir.), *cert. denied,* 423 U.S. 802 (1975).

99. Source code refers to the instructions the programmer gives the computer. The computer takes this code and generates an object code. Lay people can read source code; they cannot read object code.

100. *Id.* at 911 n.10.

101. *Id.* at 929.

company.[102] The court found that as a result of the misappropriation, IBM lost its competitive advantage in this area.[103]

Courts have also granted employers the benefits of trade secret protection in cases involving trade secrets which the defendants did not develop or design.[104] For example, the court in *Computer Print Systems, Inc. v. Lewis*[105] found a former officer of the plaintiff liable for copying a computer program designed to expedite direct mail advertising, and for delivering the program to a customer of the plaintiff.[106]

The minority rule imposes no duty on the part of an employee who develops a trade secret to keep that information confidential. In *Structural Dynamics Corp. v. Engineering Mechanics Research Corp.*,[107] individual defendants, working under nondisclosure contracts for Structural Dynamics, developed a general purpose isoparametric computer program.[108] Subsequently, they resigned and established their own competing business.[109] The court found that because the individual defendants developed the program, they had no general duty to keep it confidential.[110] Nevertheless, the court felt compelled to decide

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102. *Id.*

103. *Id.* at 911, 929.

Two recent state court decisions reach similar conclusions. In J & K Computer Sys., Inc. v. Parrish, 642 P.2d 732 (Utah 1982), the defendant-employee transferred to a customer of the plaintiff a computer program which the defendant had developed while in plaintiff's employ. The court held that the corporate plaintiff "owned" the program and that it was illegally misappropriated by the defendant. *Id.* at 735. In Cybertek Computer Prods., Inc. v. Whitfield, 203 U.S.P.Q. 1020 (Cal. Super. Ct. 1977), the defendant, who had signed a nondisclosure contract, designed a software system while employed by plaintiff. The Court held that by developing a similar system for the plaintiff's competitor, the defendant breached his contractual duty of confidentiality. By relying on the contract, the Court fulfilled the secrecy prong of the trade secret test.

104. *See* Com-Share, Inc. v. Computer Complex, Inc., 338 F. Supp. 1229 (E.D. Mich. 1971), *aff'd,* 458 F.2d 1341 (5th Cir. 1972) (per curiam); Computer Print Sys., Inc. v. Lewis, 281 Pa. Super. 240, 422 A.2d 148 (1980).

105. 281 Pa. Super. 240, 422 A.2d 148 (1980).

106. The court stressed that the plaintiff had expended a great deal of money in developing the program, and that the program gave the plaintiff a competitive advantage in the market. The court admitted, however, that direct mail programs are common knowledge in the industry. One may, therefore, question the soundness of the court's decision to grant trade secret protection in this case. *See supra* notes 37-59 and accompanying text. *See also* Com-Share Inc. v. Computer Complex, Inc., 338 F. Supp. 1229 (E.D. Mich. 1971) (defendant liable for disclosing information to third party in violation of contract between plaintiff and defendant specifically forbidding disclosure), *aff'd,* 458 F.2d 1341 (5th Cir. 1982).

107. 401 F. Supp. 1102 (E.D. Mich. 1975).

108. *Id.* at 1106.

109. *Id.*

110. *Id.* at 1112.

in favor of the employer because the individual defendants had signed reasonable nondisclosure agreements.[111]

Jostens, Inc. v. National Computer Systems[112] similarly illustrates a situation in which a court denied trade secret protection for a computer program. In this case, the individual defendant, pursuant to a nondisclosure agreement, developed a software system for the plaintiff from three commercially available subsystems.[113] Subsequently, he developed a similar system for the corporate defendant, and the plaintiff sued for misappropriation of its confidential information.[114] The court held that the plaintiff could not protect the program as its trade secret because the system composed a part of the individual defendant's own skill and knowledge.[115]

Because of the uncertain dividing line between the employer's pro-

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111. While no cases involving computer software follow *Structural Dynamics*, its reasoning is not unique. *See, e.g.*, Wexler v. Greenberg, 399 Pa. 569, 160 A.2d 430 (1970) (where defendant was hired expressly to reverse engineer competing firm's products, formulas derived belonged to him as part of his knowledge). *See also supra* note 97.

The *Structural Dynamics* decision is particularly well-reasoned because of the court's thoughtful analysis of the competing interests involved — society's need for useful knowledge, the employer's need for secrecy to motivate inventiveness, and the interests of technically skilled employees whose job mobility may become severely restricted by acquisition of trade secrets. 401 F. Supp. at 1111.

112. 318 N.W.2d 691 (Minn. 1982).

113. *Id.* at 701.

114. *Id.* at 703.

115. *Id.* at 701-03. The court acknowledged that the combination was not generally known to the public, the plaintiff intended to keep it secret, and the system did provide a demonstrable competitive advantage to the plaintiff. The combination, however, customized existing technology and did not cause plaintiff to incur large expenses. Therefore, it did not constitute a trade secret. *Id.* at 703. The Minnesota legislature has defined trade secrets by statute. *See* Uniform Trade Secrets Act, MINN. STAT. § 325C.01 subdiv. 5 (1980).

The Oklahoma Supreme Court decided a similar case in 1980. *See* Amoco Prod. Co. v. Lindley, 609 P.2d 733 (Okla. 1980). In this case the defendant-employee developed, over his employer's objection, on his own time and at his own expense, a well-logging computer program. The court denied trade secret protection to the employer for the program and held that the employee had a right to disclose it. The court refused to bind defendant to his nondisclosure contract. *See also* Electronic Data Sys. Corp. v. Kinder, 360 F. Supp. 1044 (N.D. Tex. 1973) (defendant developed for his employer one of two existing programs for processing medicaid forms; held employer has no recourse when defendant goes to work for employer's competitor and implements only the other existing program), *aff'd*, 497 F.2d 222 (5th Cir. 1974); National Sur. Corp. v. Applied Sys., Inc., 418 So. 2d 847 (Ala. 1982) (defendant developed computer programs for employer, left and started own business in same field; court held programs convertible personal property and defendants liable for same).

Arguably, some of the cases cited above do not involve trade secrets as defined in this Note. *See supra* notes 37-59 and accompanying text. Courts nevertheless held the individual defendants liable. *See* Structural Dynamics Corp. v. Engineering Mechanics Research Corp., 401 F. Supp. 1102 (E.D. Mich. 1975) (no trade secret except that protected by contract); Cybertek Computer

tectable rights in a specific program design or combination and the programmer's skill and experience, the cases involving trade secret protection in the computer industry employment relationship[116] present particularly difficult questions. Courts, while attempting to balance these competing interests, have been unable to achieve a uniform and equitable solution.

V. SOLUTIONS AND RECOMMENDATION

Congress has failed to respond effectively to the continued judicial confusion apparent in the computer employment cases. In the early 1970's there were unsuccessful attempts to legislatively establish an employee ownership right in patentable inventions and a compensation system for this right.[117] Because of significant opposition, no plans exist for enacting federal legislation on this subject.[118]

In the face of Congressional inaction and judicial uncertainty, some commentators have urged a uniform statutory solution.[119] The American Bar Association has developed a Uniform Trade Secret Act.[120] The states, however, generally have not adopted the Act.[121] Furthermore, the Act merely codified the position of the *Restatement of Torts*[122] without clarifying the factors which should influence a finding of trade secret protection for either the employer or employee.[123]

Prods., Inc. v. Whitfield, 203 U.S.P.Q. 1020 (Cal. Super. Ct. 1977) (contract may require secrecy where common law offers no trade secret protection).

116. *See supra* notes 100-116 and accompanying text.

117. *See* H.R. 1483, 92 Cong., 1st Sess (1971); H.R. 15512, 91st Cong., 1st Sess. (1969). Congress modeled this act after a similar German law. *See* Kowarzik, *Employee Invention Under German Law,* 54 J. PAT. OFF. SOC'Y, 807, 809 (1972). Although the proposed law dealt solely with patentable inventions, the element of "ownership" is common to both trade secret and patent protection.

118. R. MILGRIM, *supra* note 29, § 5.02(4), at 5-37 n.61.1.

119. *See* Stedman, *Trade Secrets,* 23 OHIO STATE L.J. 4, 32 (1962) (suggests "petty patents"; federal statute requiring registration within one year of creation of confidential information, and giving five years protection with option of renewal); Klein, *The Technical Trade Secret Quadrangle, A Survey,* 55 NW. U. L. REV. 437, 465 (1960) (suggests uniform state act); Note, *The Trade Secret Quagmire—A Proposed Federal Solution,* 50 MINN. L. REV. 1049, 1063-70 (1966) (proposing similar federal "patent" protection).

120. UNIF. TRADE SECRETS ACT §§ 1-12, 14 U.L.A. 537-551 (1982 Master ed.).

121. To date, only Minnesota and Louisiana have adopted the Uniform Trade Secret Act with a few minor changes. *See* LA. REV. STAT. ANN. § 13A:1431-1439 (West 1981); MINN. STAT. ANN. § 325C.01-.08 (West 1980). *See also* Jostens v. National Computer Sys., 318 N.W.2d 691 (Minn. 1982) (applying Minnesota's new statute).

122. *See* 4 RESTATEMENT, *supra* note 38.

123. The Uniform Trade Secret Act only covers tort theories of recovery. UNIF. TRADE

Similarly, the individual states have not developed their own statutory solutions to this problem.[124] Approximately one third of the states have enacted statutes which apply exclusively to the theft of trade secrets.[125] Other states have expanded their theft or larceny statutes to include the theft of trade secrets.[126] The majority of these statutes define trade secrets narrowly to include only scientific and technical information embodied in tangible form.[127] Because of this narrow definition, these statutes do not address the problem of misappropriation of intangible business trade secrets.[128]

Colorado's statute most comprehensively covers trade secret theft.[129] This statute protects tangible and intangible scientific and business trade secrets. Unlike the other statutes which base the degree of culpability on the value of the trade secret misappropriated, the Colorado statute provides one clearly defined penalty for all violations.[130] A

SECRETS ACT § 7, 14 U.L.A. 542 (1982 Master ed.). It expressly states that it does not cover contract or breach of duty of confidentiality actions. *Id.* The employer's successful defense against trade secret misappropriation is most frequently based on the employment contract or on the duty of confidentiality imposed by the employment relationship. Because the Act excludes these areas from its coverage it fails to provide "uniform" treatment of similarly situated plaintiffs and defendants. *See* 12A R. MILGRIM, TRADE SECRETS app. A, at A-15 n.24.

124. Some states have no legislation concerning trade secrets, *State Trade Secret Statutes*, 1976 A.B.A. SEC. PAT. TRADEMARK & COPYRIGHT L. REP. 212-14, *reprinted in* R. MILGRIM, *supra* note 29, at app. B. There are twelve such states: Alabama, Alaska, Delaware, Hawaii, Iowa, Kentucky, Nevada, North Dakota, Oregon, Rhode Island, South Dakota and Wyoming.

125. ARK. STAT. ANN. §§ 41-2201(10), 41-2207 (Bobbs-Merrill Co. 1976); CAL. PENAL CODE § 499(c) (West Supp. 1978); COL. REV. STAT. § 18-4-408 (Bradford-Robinson 1974); FLA. STAT. ANN. § 812.081(c) (West Supp. 1975); GA. CODE § 26-1806(a)(3) (Supp. 1978); MASS. GEN. LAWS ANN. ch. 266, §§ 30(4) 60A (West 1972); MICH. COMP. LAWS §§ 752.771(3), 752.772-.773 (Supp. 1978); NEB. REV. STAT. ch. 28 §§ 548.01(3), 548.02-.03 (1975); N.M. STAT. ANN. § 40-A-16-23 (Supp. 1969); N.Y. PENAL LAW §§ 155.00(6), 155.30(3), 165.07 (McKinney 1977); N.C. GEN. STAT. § 14-75.1 (1969); OHIO REV. CODE ANN. §§ 1333.51(3), 1333.99 (Page Supp. 1977); OKLA. STAT. ANN. tit. 21, § 1732(B)(c) (West Supp. 1978); PA. STAT. ANN. tit. 18 § 3930 (Purdon 1973); TENN. CODE ANN. §§ 39-4238(3), 39-4239 to -4240 (1975); TEX. PENAL CODE ANN. § 31.05(a)(4) (Vernon 1974); WIS. STAT. ANN. § 943.205 (West Supp. 1978).

126. CONN. GEN. STAT. ANN. § 53a-124 (West Supp. 1978); ILL. REV. STAT. ch. 38, §§ 15-1 to -9, 16-1 (1969); IND. CODE ANN. § 10-3048 to -3052 (Burns Supp. 1974); ME. REV. STAT. ANN. tit. 7 § 722 (Supp. 1973), tit. 17 § 2113 (Supp. 1970-71), tit. 17-A § 352(1)(F) (Supp. 1978); MD. ANN. CODE art. 27, §§ 340(h)(11), 341-42 (Supp. 1978); MASS. GEN. LAW ANN. ch. 266, §§ 30(4), 60A (West 1972); MINN. STAT. ANN. § 609.52 (West Supp. 1979); MONT. CODE ANN. §§ 94-2-101(48)(j), 94-6-302 (1973); N.H. REV. STAT. ANN. §§ 637:2(i), 637:3 (1974); N.J. REV. STAT. § 2C:20-1 to -3 (1979); UTAH CODE ANN. §76-6-401 (1978).

127. *See, e.g.,* GA. CODE § 26-1806(a)(3) (Supp. 1978).

128. *Id.*

129. COLO. REV. STAT. § 18-4-408 (Bradford-Robinson 1973).

130. COLO. REV. STAT. § 18-4-408(3). The statute makes the theift of any trade secret a class

well-publicized criminal statute of this variety may most effectively deter errant employees.

Only Florida has an intellectual property statute which directly classifies the misappropriation of computer programs as a felony, but coverage is restricted to the theft of tangible programs.[131]

While criminal statutes may sufficiently deter employees to significantly reduce misappropriation, socially valuable inventions could be concommitantly discouraged. Therefore, a few states have passed civil trade secret statutes.[132] The most effective of these statutes imposes treble damages upon receivers of stolen trade secrets who knew or should have known that the secrets were stolen.[133] This statute could reduce employers' incentives to actively seek employees from competitors with the intent of gaining access to the competitors' trade secrets.

Three states recently enacted "Freedom to Create" statutes[134] which attempt to encourage invention by clearly delineating the situations in which an employee may expect to keep the product of his efforts.[135] One of these statutes requires an employee hired for both specific and general inventive positions to assign an invention[136] to the employer if it relates to the business of the employer.[137] The other two acts apply the same rule to employees in specific inventive positions,

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one misdemeanor. A second offense within five years elevates the crime to a class four felony. *Id.*.

131. FLA. STAT. ANN. § 815.04 (West Supp. 1983).

132. CAL. CIVIL CODE §§ 980-85 (West 1954) (provides exclusive property rights in employer in inventions not disclosed to the public); CONN. ANTI-TRUST ACT, Pub. Act 608 (1972) (provides treble damages and injunctive relief); MONT. CODE ANN. § 39-2-102 (1981) (everything employee acquires during employment, except compensation, belongs to employer); MASS. ANN. LAWS ch. 93, §§ 42, 42A (Supp. 1970) (provides tort liability along same lines as its criminal statute; provides both damages and injunctive relief); N.M. STAT. ANN. § 40-A-16-23 (Supp. 1969) (provides for treble damages against purchaser of stolen trade secret who knew or should have known it was stolen).

133. N.M. STAT. ANN. § 40-A-16-23 (Supp. 1969).

134. CAL. LAB. CODE § 2870-72 (West 1979); MINN. STAT. ANN. § 181.78 (1978); WASH. REV. CODE § 49.44(2)-(3) (1974 & Supp. 1979). These statutes govern only ownership rights under employee invention agreements.

135. Like the failed federal statute, these state statutes apply only to patentable inventions and are therefore not directly applicable to the present problem. These statutes do suggest, however, one viable solution to the misappropriation of trade secrets.

136. WASH. REV. CODE § 49.44(2)-(3) (1974 & Supp. 1979). It does not include employees hired for non-inventive positions. Inventions of non-inventive position employees are not assignable to the employer.

137. *Id.*

but do not require employees hired for general inventive purposes to assign their inventions.

While these statutes add very little to the existing common law, they mark a small advance in the right direction. The statutes clearly delineate the groups of employees who must assign their inventions to the employer pursuant to an employee invention agreement. Because most key employees in the computer industry must sign such employment agreements, legislatures should expand state statutes to encompass ownership of trade secrets.[138]

Combining a reasonable employee nondisclosure agreement with a statutory[139] definition of the parties' ownership rights could eliminate the confusion presently existing in the application of trade secret law to the employment relationship.[140] For instance, in addition to the general language of the "Freedom to Create" acts, a broader statute could require that the employer and employee meet periodically and sign an agreement stating which projects the employer considers trade secrets.

This type of statute could also protect an employee from loss due to a lack of bargaining power. An employee who believed that specific trade secrets did not "belong" to the employer could petition an arbitrator whose identity could have been established in the original employee nondisclosure agreement. Finally, the statute could prohibit retaliatory firing, so that employees would not be deterred from exercising their rights through the fear of losing their jobs. By statutory

138. While confidential information constituting a trade secret may not pass the strict standard of patentability, it does give the employer a competitive advantage if he succeeds in keeping it secret. Employees usually develop the trade secret for the employer. Under a statute similar to those discussed above, both the employer and employee would better understand their respective positions upon entering the employment relationship.

139. A federal or model state statute would promote uniformity. Key employee mobility extends beyond state lines and therefore a uniform law is imperative.

140. Several practical problems inhere in this proposal. First, no figures are available on the number of computer industry employees who change employment each year. Thus, this proposal seeks to correct an admittedly unquantified problem. Second, an explicit, detailed, frequently updated contract could increase the adversarial nature of the employment relationship. Third, this proposal would highlight the admitted lack of trust which initially prompted action.

The greatest difficulty with private enforcement systems is their cost. Unless a firm can maintain these system costs for less than it would cost to litigate cases concerning misappropriation of trade secrets by key employees, it will have no incentive to implement these programs. Most likely, only firms with large research and development departments will find such a system economically feasible because the cost of such a program would be less than their projected litigation costs.

delineation of trade secret ownership in the employment relationship, private control costs would be reduced.

Alternatively, employers and employees could expand the use of reasonable employee nondisclosure agreements. A firm with a large research and development department might find it profitable to appoint a supervisor to oversee and review on-going projects to determine those which need trade secret protection; after this initial determination the supervisor could prepare a nondisclosure agreement to be signed by employees involved with these projects. If an employee believed that an item did not deserve nondisclosure protection, he could invoke an arbitration procedure similar to the one outlined in the statutory solution set forth above. In firms with smaller research and development departments, existing departmental project supervisors could follow the suggested procedure.

Conclusion

In distinguishing between the knowledge, skill and ability which belong to an employee programmer, and the concept, method or process developed by the employee which belongs to the employer, the courts have failed to articulate a clear standard for balancing competing social policies. Courts have generally favored the interests of the employer without thoroughly considering whether the work product involved warranted elevation to trade secret status. Thus, employers and employees alike are uncertain as to their legal rights. This uncertainty has deterred invention and research and development, and has encouraged unfair practices. The combined statutory and contractual solution suggested in this Note would promote competing social policies and would interject an element of certainty into the employment relationship in the computer software industry.

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