IDEA: The Journal of Law and Technology

Volume 26 1985 - 1986



VOLUME 26 — NUMBER 1

TABLE OF CONTENTS

| COMMENTARY | | |
|--------------------------------------|----------------|----|
| — The Status of Foreign Copyright | | |
| Protection in Malaysia | Richard C. | _ |
| | Wilder | 1 |
| — "Swedish Intellectual Property | | |
| and Market Legislation" | | |
| (Book Review) | Thomas G . | |
| | Field, Jr. | 4 |
| — "Private Copying of Sound and | | |
| Audio Visual Recordings" | | |
| (Book Review) | $Thomas\ G.$ | |
| , | Field, Jr. | 4 |
| Presumptions and Burdens of Proof: | | |
| Forgotten Tools in Patent Litigation | $Paul\ J.$ | |
| | Hayes | 7 |
| Patentability of a Second Indication | | |
| of a Pharmaceutical in Europe | $Jean\ M.$ | |
| • | Miller | 15 |
| Combining Applications for Filing | | |
| in the U.S. | $Gregory\ J.$ | |
| | Maier and | |
| | Robert F. | |
| | Gnuse | 25 |
| Current Literature in Law/Science: | | |
| Policy and Intellectual and | | |
| Industrial Property | Judith Gire | |
| | Norcross | |
| | Lisa A. Mitten | 33 |



Mitten

107

VOLUME 26 — NUMBER 2

TABLE OF CONTENTS

| COMMENTARY A Document Retention Program for Patent Attorneys | Jeffrey S. Boone | 49 |
|--|-----------------------------------|----|
| Brief Survey of and Proposal for Better Reconciliation of the | | |
| Options in Patent, Trademark, Copyright and Related Law | Thomas G. Field, Jr. | 57 |
| So-called "Secondary Considerations" Related to the Nonobviousness of an Invention | Guy McClung Ronald G. Bliss | 95 |
| Current Literature in Law/Science: Policy and Intellectual and Industrial Property | Judith Gire and Lisa A. | |



VOLUME 26 — NUMBER 3

TABLE OF CONTENTS

| COMMENTARY | | |
|------------------------------------|----------------|-----|
| Reexamination | | |
| Damages in Patent Cases | Irwin M. | |
| _ | Aisenberg | 121 |
| Presumptions of Validity of the | | |
| New Child of Intellectual | | |
| Property: Mask Works | Jennifer | |
| | Tegfeldt | 125 |
| Anatomy of a Misappropriation: | | |
| Edward M. Goldberg, M.D. | | |
| v. Medtronic, Inc. | Roy E. Hofer | |
| • | and John M. | |
| | Wagner | 145 |
| Current Literature in Law/Science: | | |
| Policy and Intellectual and | | |
| Industrial Property | Judith Gire | |
| | and $Lisa A$. | |
| | Mitten | 153 |
| | 1/1000010 | 100 |



VOLUME 26 — NUMBER 4

TABLE OF CONTENTS

| COMMENT | ARY |
|----------|-------|
| Computer | Crime |

Carla Ottaviano 163

International Legal Protection of

Nicholas Computer Programs Prasinos 173

The Statutory Damages Provision Under the 1976 Copyright Act

Pamela A. Hay 241

Patents for Biotechnology

Donald G. Daus 263

COMMENTARY

The Status of Foreign Copyright Protection in Malaysia

Followers of intellectual property developments in Southeast Asia should take note of a recent development in Malaysian copyright law.

On 14th September 1984 Judge Zakaria M. Yatim handed down an opinion which declared that "Malaysia is under no legal obligation whatsoever to protect copyright of works originated in foreign countries." Asia Television Limited, et al. v. Mega Video Recording Supply Centre, High Court of Malaysia, Commercial Division, C1713 of 1983.

The Asia Television case involved a licensor and its licensee that brought the action of copyright infringement against a video-tape rental company that had reproduced and disposed of 19 Chinese films of which the licensor, a Hong Kong Company, claimed it was the copyright owner. The licensee is a Malaysian video-tape rental and retail outlet.

The plaintiffs had applied for and received an order which, among other things, restrained the defendant from reproducing and disposing of the films. It was this order that was set aside in Judge Zakaria's opinion of 14th September 1984.

It is not disputed in Malaysia that a video-tape is a "cinematograph film" within the meaning of the Copyright Act of 1969 (Act 10), hence copyrightable subject matter.

The dispute and holding in the present case centered around the interpretation of three provisions of the Copyright Act, namely: Sections 2(2)(c), 6(1)(a), and 20.

Section 20 provides that the Minister of Trade and Industry may make regulations extending the application of the Copyright Act to nationals of countries which are parties to a treaty or members of any convention to which Malaysia is also a party or a member as the case may be.

Section 6(1)(a) confers copyright protection on, among other things, every cinematograph film which is first published in Malaysia.

Section 2(2)(c) provides for simultaneous publication, stating that:

"a publication in any country shall not be treated as being other that the first publication by reason only of an earlier publication elsewhere, if the two publications took place within a period of not more than thirty days."

2 IDEA - The Journal of Law and Technology

Until the opinion of Judge Zakaria in the present case the state of the law had been that Section 20 had been considered independent of sections 2 and 6. That is, "section 20 would apply to any work of any foreigner who cannot acquire copyright under section 6 of the Act" Television Broadcasts & 2 Ors. v. Seremban Video Centre, (1984) 1 CLJ 196, 198.

Acquiring copyright protection under section 6 of the act, read in conjunction with section 2(2)(c), required only that a person publish in Malaysia within 30 days of publication elsewhere. The result was that any person, Malaysian citizen or not, could get copyright protection.

In a reinterpretation of the Malaysian Copyright Law Judge Zakaria traced the origins of section 2(2)(c) from Article 3(4) of the Berne Convention and Section 49(2)(d) of the English Copyright Act, 1956.

He concluded that section 2(2)(c) is a dormant provision that only comes into play when Malaysia has acceded to an international convention or concluded a bilateral agreement on copyright protection. Malaysia has not chosen to accede to any multilateral copyright conventions at this time.

Such an occurrence is not likely in the near future. Trade and Industry Minister Tengku Razaleigh Hamzah said the Government of Malaysia "will not be and is not considering" being a signatory to either the Universal Copyright Convention or the Berne Convention. This remark was made to reporters after Tengku Razaleigh visited the National Film Corporation on 26th October, 1984 and reported in The Malay Mail, Saturday, October 27, 1984. The feeling is that no action by the Ministry is required as a reversal of the High Court's opinion would suffice.

At the present time, suit in the Asia Television case has been discontinued. Another appeal on the same point, however, is being taken up to the Federal Court from Ipoh High Court Civil Suit No. 1631 of 1984. A hearing is expected sometime around March of 1985.

The result of the court opinions, pronouncements by Minister and inaction by Parliment has been confusion on copyright protection in the country and an open season on piracy of copyrightable subject matter of foreign origin, including video-tapes and computer software.

The U.S. Department of Commerce's International Trade Administration is sponsoring a series of conferences on this topic through Asia in the first quarter of 1985, Malaysia being one stop. One hopes that such efforts will make clear the frustrations felt outside of

Malaysia at these developments and help find a mutually satisfying solution to the problem.

Lest we forget, the United States was once in a position similar to Malaysia's with regard to the protection of foreign works. It wasn't until the Chase Act, §3, Act of March 3, 1891, 26 Stat. 1106, that the United States extended copyright protection to works of foreign nationals on a reciprocity basis.

Richard C. Wilder
Juris Doctor
Franklin Pierce Law Center — 1984

4 IDEA - The Journal of Law and Technology

BOOK REVIEWS

Bibliographic Information

Bernitz, Ulf, Ed., SWEDISH INTELLECTUAL PROPERTY AND MARKET LEGISLATION, 181 pp. (Institutet för immaterialrätt och marknadsrätt vid Stockholms Universitet. Paper, price not provided.) ISBN 91-38-08171-7

Review

The book contains English translation of the Swedish statutes governing patent, copyright, trademark, unfair trade, antitrust, consumer protection and related matters. The translations are drawn from several sources and, as pointed out in the preface, this leads to minor inconsistencies. Nevertheless, the English is idiomatic and very readable as compared to translations this reviewer has seen elsewhere. For those dealing with Sweden and unable to read the language, this work is sure to be invaluable in dealing with foreign counsel. Moreover, those interested in comparative law will find it useful to have access to this set of statutes (and excerpts of relevant constitutional provisions) for one of the major Scandanavian countries.

Reviewed by Thomas G. Field, Jr. Professor of Law Franklin Pierce Law Center

Bibliographic Information

DAVIS, Gilliam, PRIVATE COPYING OF SOUND AND AUDIO VISUAL RECORDINGS. 247 pp., Appendices, Bibliography, Notes. (ESC Pub. Ltd. 1984)

ISBN 0-906214262

Review:

This remarkably comprehensive legal and empirical survey of home recording was commissioned by the Commission of the European Community. In addition to covering states within the E.C., the book also briefly refers to developments in 12 other countries. Based on the brief discussion of the U.S. situation, however, one must wonder about the thoroughness of the extra E.C. work. The author failed to pick up from the *Betamax* cases that home *audio* recording is a quite distinct problem from home *video* recording. *See*, *e.g.*, 480 F.Supp. at 444-46 and 659 F.2d at 967-69.

In any case, a researcher will find a wealth of factual and legal information. While the book lacks an index, the extremely detailed table of contents seems more than ample for access to it. This book appears to be an invaluable reference for those interested in the legal and market implications of home recording of broadcast material in Europe.

Reviewed by Thomas G. Field, Jr. Professor of Law Franklin Pierce Law Center 6

.

Presumptions and Burdens of Proof: Forgotten Tools in Patent Litigation

PAUL J. HAYES*

Presumptions in patent law are viewed with disdain. If a patent attorney were asked to comment on the constitutional presumption of innocence in criminal cases, he undoubtedly would explain the term "reasonable doubt" and the substantial burden placed on the government to obtain a conviction. Ironically, if this same attorney were queried about the presumption of validity in patent litigation, he would concede its existence but thereafter quickly explain the marginal effect it has on the outcome of a patent trial and the "real" technological issues involved therein.

A criminal trial attorney would never think of trying a felony case without repeatedly emphasizing the fundamental presumption of innocence and focusing analysis of the evidence (or lack thereof) on the burden of the government to prove, beyond a reasonable doubt, each and every element of the crime. However, in a typical patent case, the plaintiff routinely relegates the presumption of validity to a proforma place late in his brief. The trial thereafter becomes a battle of technology without regard for this presumption, and without focus on the burden to be met by the quality of evidence for the defense.

Under 35 U.S.C. §282, a United States patent "shall be presumed valid." For the plaintiff, this statutory presumption is the first and

A patent shall be presumed valid. Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim. The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.

The statutory language is framed by the use of the word "shall," mandating the high level of proof required to invalidate a patent.

^{*}Weingarten, Schurgin, Gagnebin & Hayes; Boston, Massachusetts*

¹ 35 U.S.C. §282 (1976) states, in part:

IDEA - The Journal of Law and Technology

8

most fundamental tool to debilitate a claim of invalidity by the defendant, and to hold the defendant to the legal standard of proof by clear and convincing evidence. As succinctly stated in *Speed Shore Corp. v. Denda*, 605 F.2d 469, 470, 203 U.S.P.Q. 807, 809 (9th Cir. 1979):

The defendants argue that the Brunton patent is invalid for obviousness under 35 U.S.C. §103. In order for the defendants to succeed on this argument, they must overcome the statutory presumption that a patent is valid by clear and convincing proof, Santa Fe-Pomeroy, Inc. v. P & Z Co., 569 F.2d 1084, 1091, 197 U.S.P.Q. 449, 454-455 (9th Cir. 1978), a presumption which is based upon the expertise of the Patent Office.²

This standard of proof, required to overcome the presumption based on the expertise of the patent office, has been recently adopted by the Court of Appeals for the Federal Circuit in American Hoist & Derrick Co. v. Sowa & Sons, Inc.³

Armed with the presumption found in 35 U.S.C. 282 and the associated level of proof, plaintiff need not become entangled in a technological debate. Under the statute, the plaintiff can aggressively require the allegations raised by the defendant, whether technical or otherwise, to be supported by clear and convincing evidence. Once the focus of the trial is directed away from the merits of defense argument, and focused on the quality and level of the factual proof in support thereof, the position of the plaintiff then is elevated from a mere technical confrontation, markedly increasing the chances for a favorable outcome. It obviously is much easier to successfully argue that defendant has not sustained its burden of proof than to prove that defendant is technically incorrect. All this is possible, however, only if plaintiff emphasizes the presumption of validity and the requisite standard of proof of the defendant from the beginning of the case.

The result of effectively utilizing the presumption of validity and associated burden of proof is best demonstrated in *Laitram Corporation v. Depoe Bay Fish Company*. Prior to making any decision on the

Mumm v. Jacob E. Decker & Sons, 301 U.S. 168, 171 (1937); Saf-Gard Products, Inc. v. Service Parts, Inc., 532 F.2d 1266, 1271 (9th Cir. 1976) E.I. duPont de Nemours & Company v. Berkley, 620 F.2d 1247, 1267 (8th Cir. 1980); Hobbs v. U.S. Atomic Energy Commission, 451 F.2d 849, 863 (5th Cir. 1971); Lorenz v. F.W. Woolworth Co., 305 F.2d 102 (2nd Cir. 1962); Triumph Hosiery Mills, Inc. v. Alamance Industries, Inc., 299 F.2d 793 (4th Cir. 1962), cert. denied, 370 U.S. 924 (1967); Reese v. Elkhart Welding & Broiler Works, Inc., 447 F.2d 517 (7th Cir. 1971).

³ 725 F.2d 1350, 220 U.S.P.Q. 763 (Fed. Cir. 1984).

⁴ 549 F. Supp. 29 (D. Ore. 1982).

merits of defendant's defenses, the court in *Laitram* addressed in detail the presumption of validity and the burden on defendant to prove by clear and convincing evidence all defenses incorporating matters initially considered by the United States Patent Office. The court rightfully refused to treat the issue of obviousness as simply a subjective technical debate and held:

The patent in suit enjoys a presumption of validity, 35 U.S.C. §282, and the party challenging its validity carries the burden of demonstrating invalidity by "clear and convincing evidence." 5

Defenses based on prior art patent features and the level in the skill of the art were evaluated by the court, which took into consideration the level of proof mandated by the presumption of validity, and concluded that the patent was "not invalid for obviousness."

From the outset of the litigation in *Laitram*, plaintiff emphasized the importance of the presumption of validity and the stringent requirement on defendant to prove its case in accordance with the mandated legal standard. This emphasis was continued throughout trial with particular attention, not to the absolute correctness of technical position of the plaintiff, but to the various inconsistent facts underlying the technical position of the defendant and the coincident failure of defendant to prove its case by "clear and convincing evidence."

For example, the invention in *Laitram* related to a process for mechanically peeling precooked shrimp. During trial, the expert for the defendant testified that the invention would have been obvious in view of certain prior Scandinavian hand peeling operations. However, on cross-examination, this expert admitted that "at the time of the invention" he had no personal knowledge of the art, had not seen a hand peeling operation and had not talked to "one of ordinary skill."

In final argument, plaintiff focused not on the technical aspects of the prior art hand peeling operations, but on the credibility of the hindsight approach taken by the witnesses for the defendant and the insufficiency of this testimony to sustain the burden of proof required of the defendant. In this manner, the emphasis was directed not to the correctness of the technical position of each party but on the inability of the defendant to evidentiarily sustain the burden of proof

⁵ Id. at 31.

⁶ Id. at 34. The language used by the court, "not invalid for obviousness," suggests a clear appreciation for the burden on defendant to prove the patent invalid.

Plaintiff did not attempt to technically rebut each assertion of defense expert witness. To do so would have deemphasized the inconsistent positions taken by the defendant and would have caused unnecessary focus on the absolute technical merit of the case.

mandated by the presumption of validity. As a result, the *Laitram* decision is an example of the importance of the presumption of validity and its critical role in patent litigation.

Presumptions and burdens of proof are not always beneficial to plaintiff. Under certain circumstances, various presumptions and burdens may be used by defendant to defeat a patent. For example, even if defendant openly admits that a fully examined patent is entitled to the presumption of validity, the introduction of more pertinent art not considered by the Patent and Trademark Office will reduce the element of deference given to the Patent Office, and discharge the burden of proof to be sustained by the defendant. To this effort, defendant should first explain the importance of a full and complete examination, and the inherent limitations of the Patent Office's search. The defendant should then introduce testimony showing the superior relevance of the art now before the court. In this manner, defendant uses to his advantage the presumption of validity and its inherent requirement of full examination.

An example of where presumptions and burden of proof have materially affected the outcome of patent litigation and aided to invalidate the patent is shown in *Racal-Vadic*, *Inc. v. Universal Data Systems*. ¹¹ In *Racal-Vadic*, the patent in suit was held invalid under the "on sale" provisions of 35 U.S.C. 102(b). The evidence showed that prior to the critical date plaintiff had offered for sale the patented item to a number of potential customers. Plaintiff, at trial, took the position that such offers were for experimental purposes to procure test sites for evaluating the invention in a real life commercial environment. ¹²

Defendant, relying on the fact that the offers for sale had been made prior to the critical date, and the legal presumption that such offers were for commercial exploitation, defended on the grounds that evidence of experimental intent raised by plaintiff did not meet the

⁸ American Hoist, supra note 3, at 1360.

The inherent limitation of the Patent Office search must be examined in order for the court to fully understand the rationale behind the presumption of validity.

An explanation of the patent office's search limitations is not enough. Evidence must be introduced to highlight the relevant differences between that art cited by the examiner and the art relied upon by defendant. Failure to do so will generally result in a finding that the relied upon art is merely cumulative. Laitram, supra, note 4 at 32; Saf-Gard, supra, note 2 at 1271; Schnadig Corp. v. Gaines Manufacturing Co., 494 F.2d 383, 391 (6th Cir. 1974).

^{11 207} U.S.P.Q. 902 (N.D. Ala. 1980)

¹² Id. at 913, 914.

requirements of its stringent burden of proof.¹³ The focus of the defense was thereafter directed to the sufficiency of evidence for plaintiff.

For example, at trial the inventor and a number of marketing men employed by plaintiff testified that the intent of the prior advertisements, quotes, etc. was to procure "test sites" to test the invention in a real life commercial environment. However, on cross-examination each witness was shown the contemporaneous documents and asked to point out where in such documents there was any mention of experimentation. By eliciting a sequence of denials, defendant thus demonstrated a critical inconsistency in the evidentiary proof of the plaintiff. In final argument, defendant focused not on the absolute question of "experimental intent" but on the inconsistent testimony of witnesses for the plaintiff when compared to the contemporaneous documentary evidence and, thus, the failure of the plaintiff to sustain its burden of proof. The court, after considering the burden placed on plaintiff, noted the aforementioned inconsistency as demonstrated by the lack of adequate contemporaneous documentation, and thereafter invalidated the patent.14 As seen in Racal-Vadic, the presumption as-

See, Smith and Griggs Mfg. Co. v. Sprague, 123 U.S. 249, 264 (1887); In Re Yarn Processing Patent Validity Litigation, 498 F.2d 271, 286 (5th Cir. 1974); Dart Industries, Inc. v. E.I. duPont de Nemours & Co., 489 F.2d 1359, 1364 (7th Cir. 1973), cert. denied, 417 U.S. 933, (1974); In Re Theis, 610 F.2d 786, 792 (C.C.P.A. 1979); Minnesota Mining & Manufacturing Co. v. Kent Industries, Inc., 409 F.2d 99, 100 (6th Cir. 1969); Root v. Third Avenue Railroad Co., 146 U.S. 210, 226 (1892).

¹⁴ The following Findings of Fact and Conclusions of Law best summarize the position of the defendant and the reasoning of the court in invalidating the patent.

Racal-Vadic, supra, note 11 at 914, Findings of Fact 4-45

Although several of Vadic's witnesses testified at trial that the purposes of the GE demonstration was primarily "experimental," to ascertain the operability of the VA3400 modems at a "customer's site" and particularly with computer generated data, that testimony is not corroborated by any of the contemporaneous documents. In fact, for the reasons discussed above, such testimony seems to be in conflict with them.

Id. at 924: Conclusion 12

Accordingly, this Court concludes that, while the "experimental" exception is theoretically applicable to the "on sale" bar of \$102(b), Vadic has not shown by "clear and convincing evidence" that all of the sales activities of Vadic with respect to the VA3400 modem prior to the critical date were primarily for "experimental" purposes.

sociated with the early offers for sale and the required burden of proof played a fundamental role in the court's finding of invalidity.¹⁵

An example highlighting the importance of isolating the appropriate burden of proof and its application to each element of the cause of action is shown in Roman Research, Inc. v. Caflon. 16 In Roman Research, suit was filed under the false marking statute, 35 U.S.C. §292 (1976), and was based on advertisement by the defendant that its product was patented.17 Defendant readily admitted to the falsity of its advertisements but relied on the law strictly construing 35 U.S.C. §292 as "penal in nature," 18 the requisite element of deceptive intent, and the failure of the plaintiff to produce sufficient evidence of such deceptive intent. As in Racal-Vadic, the defendant did not base its defense on proving a lack of intent to deceive, but rather on the failure of the plaintiff to prove by clear and convincing evidence that defendant did intend to deceive. 19 The court considered the burden of proof of the plaintiff on the element of intent, and thereafter found for defendant, irrespective of the fact that the advertisements in question were false.

Again, in J.E. Ekornes Fabrikker A/S v. Charlton, 20 defendant relied heavily on the presumption associated with its laches/estoppel defense. After enumerating the basic law of laches, the court directed its attention to the presumption of unreasonable delay and material prejudice coincident with a delay in filing suit of greater than six years. 21 The Court first focused its inquiry on the correctness of contentions by the defendant that such presumption applied, 22 and

As in Laitram, supra, note 4, the focus was on the quality of the evidence not its absolute merit. The question before the court in Racal-Vadic was not whether defendant had shown commercial intent, but whether the evidence for the plaintiff was legally sufficient to rebut the presumption of commercialization and sustain its burden of proof.

^{16 210} U.S.P.Q. 633 (D. Mass. 1980)

^{17 35} U.S.C. §292 states in part:

Whoever marks upon, or affixes to, or uses in advertising in connection with any unpatented article, the word "patent" or any work or number importing that the same is patented, for the purpose of deceiving the public; . . .

¹⁸ Mayview Corp. v. Rodstein, 620 F.2d 1347 (9th Cir. 1980).

¹⁹ To this effort defendant did not call any witnesses of its own, but let the case rise or fall on the proof presented by the plaintiff.

²⁰ 219 U.S.P.Q. 508 (D. Mass. 1982)

²¹ TWM Mfg. Co., Inc. v. Dura Corp., 592 F.2d 346, 348-49 201 U.S.P.Q. 433, 435 (6th Cir. 1979)

²² Ekornes Fabrikker, supra, note 20 at 510.

thereafter transferred the burden to plaintiff to justify such delay with evidence sufficient to overcome the presumption.²³

In an attempt to justify its extended delay in commencing suit, plaintiff submitted the affidavit of its president. The court, however, weighed the evidence presented by the plaintiff, and particularly this affidavit, not only against the evidence of the defendant, but also against the legal standard of proof mandated by the aforementioned presumption.

In conclusion, the court found that "the burden of proof is placed on Fabrikker [Plaintiff] to rebut the presumption of unreasonable delay and material prejudice to the defendant," and that "Fabrikker has not rebutted the presumption of unreasonable delay." Accordingly, the court granted a Motion for Summary Judgment in favor of the defendant and dismissed the suit.

As seen from the above, presumptions and their associated burdens of proof require proof to a fixed legal standard, focus the issue on the quality and level of proof, and thus provide a distinct advantage to the party relying thereon.

CONCLUSION

Presumptions and burdens of proof inherent in patent litigation are not merely fictional niceties that can be ignored. Their recognition and the focusing of evidence on the failure of the opponent to meet such burdens is fundamental to successful patent litigation. These tools, if discarded, transform patent litigation into complex technical debates. However, if such tools are regularly implemented, they can be used with elegant precision to shape a desired outcome.

²³ Id. at 511.

²⁴ Id. at 511-512.

²⁵ Id. at 511.

²⁶ Id. at 512.

14 IDEA – The Journal of Law and Technology

Patentability of a Second Indication of a Pharmaceutical in Europe

JEAN M. MILLER

There is currently a great deal of debate in European countries on the question of whether the discovery of a new medical use for a pharmaceutical, having a known but different medical use, is patentable. It is settled that the discovery of a first pharmaceutical use for a known chemical substance is patentable in many European countries. The patent coverage of such use is normally limited to product by use claims. However, the disagreement in various European countries concerns the patentability of the second medicinal use of a pharmaceutical. Further, there is debate as to whether claims directed to a second indication, even if held to be patentable, would be enforceable. Conversely, there is genuine concern that such enforcement would preclude physicians from prescribing the medication, for either the first or second indication, for fear of being held liable of patent infringement.

A number of arguments typically are presented in support of and against the granting of patent protection for a second indication of a known pharmaceutical. Those opposing patentability contend that:

- 1. Claims to a second indication would have to be method of use claims and, as such, would be impossible to enforce.
- No industrial application attaches to the use claims; such claims are directed to a method for the treatment of humans, and are both precluded by the patent laws and exhausted by the direction to the physician.

See, e.g. Klopsch, The Patentability of Pharmaceuticals According to the European Patent Convention (EPC), 13 I.I.C. 457 (1982).

16 IDEA – The Journal of Law and Technology

3. Physicians would be discouraged from prescribing the pharmaceutical for either the first or second indication for fear of being held liable for infringement.²

Those arguing in favor of patentability, have responses to each of these points.

The argument that use claims would be impossible to enforce is based upon the fact that the primary infringer of the use claims would be the physician treating an individual patient. Obviously it would be difficult, if not impossible, to police all such prescriptions in hopes of catching an infringer. However, it is not the physicians that the patentee would wish to regulate. It is the secondary or "contributory" infringer, the pharmaceutical supplier, who would be the target of an infringement suit.

Alternately, the pharmaceutical supplier may be considered to be a primary infringer, under the theory that by "providing the substance," the manufacturer has "used" the invention, and thus has come within the scope of the patent's claims. And such infringers, who keep complete records of manufacture and sales, are relatively easy to regulate. Use claims, then would be enforceable since a new pharmaceutical use demands at least the packaging of the pharmaceutical substance with instructions for use in the treatment of the disease or condition to which the second indication is directed, and renders the manufacturers thereof liable for primary or contributory infringement.

The argument that no industrial application attaches to the use claims can be easily countered by economic reality. As set forth hereinabove, every time a pharmaceutical is found suitable for a new indication, the pharmaceutical manufacturer must repackage the product for the new market, and include labeling instructions directed to the new use. When the manufacturer sells such a product without a license from the patentee, it is liable to the patentee for primary or contributory infringement. It is the manufacturer who derives the direct profits from the sale of the product, and the manufacturer who would be named as defendant in the infringement suit.

Further, since such industrial use attaches, the use claims would not be directed solely to a method for treating humans, and would not be exhausted by the direction to the physician.

² Suchy, Patent Protection for a Second Medicinal Use, 13 I.I.C. 471 (1982) at 475-479.

³ Gruber & Kroher, Patentability of Pharmaceutical Inventions – A Comparison of the Legal Situation in Germany and Some Common Law Countries-Part One, 15 I.I.C. 588 (1984) at 597.

⁴ In Re Eisai Co., Ltd., 16 I.I.C. 83, Enl. Bd. App. Eur. Pat. Off. (1985) at 88.

The argument that physicians would be discouraged from prescribing the drug for any indication is based on the fact that under European patent law, a physician is subject to the restrictions of pharmaceutical patents, and hence may be held liable for infringement. Proponents of patentability of a second indication counter this point with two arguments. First, the act of prescribing the pharmaceutical for a first indication simply would not infringe use claims directed to a second indication. Second, as suggested previously, physicians would not be practical targets of infringement actions in any event, as such actions would be brought against the manufacturer. Since, according to Article 3Ø of the Community Patent Convention⁵, and the national laws in harmony with it, a contributory infringer may be sued without suit being brought against the primary infringer, patent owners may bring suit against the pharmaceutical manufacturers without ever involving the prescribing physician.

Finally, it is extremely doubtful that a patent owner would ever bring suit against individual physicians. Such suits would discourage physicians from prescribing a particular drug for fear of being the target of similar suits. On the contrary, the patent owner would wish to encourage physicians to prescribe the pharmaceutical, and thereby extract larger royalties from the manufacturers as licensees.

None of the traditional arguments against patentability of a second indication, then, would seem to present a convincing case.

In addition to answering the arguments set forth hereinabove, those in favor of patent protection for a second indication have made some additional points. First, the proponents point out that an overwhelming amount of research is now conducted on extensive testing of known pharmaceuticals to find new uses therefor, as opposed to research directed to the discovery of finding novel compounds. Figures quoted recently in Klopsch⁶ indicate that while only 16 to 20% of a pharmaceutical manufacturer's research funds are spent on new ingredient synthesis, up to 80% are spent on tests of known substances. Patent protection, it is argued, would encourage this costly and extensive testing.

Second, it is often the case that the later-discovered indication of a pharmaceutical turns out to be of substantially greater utility than the first indication. Logic would dictate that this eminently more use-

⁵ Official Journal of the European Communities, vol. 19, No. L 17, January 26, 1976.

Klopsch, Patentability of Pharmaceuticals According to the European Patent Convention (EPC), 13 I.I.C. 457 (1982), at 461.

ful second indication should receive patent protection in preference to the less important first indication.

It would seem, then, that use claims directed to a second indication would be enforceable, and at least arguably beneficial. The remaining questions concerning whether claims to the second indication of a pharmaceutical will be allowed are strictly legal in nature.

The patentability of medically related inventions is addressed in Articles $52(4)^7$ and $54(5)^8$ of the European Patent Convention (EPC). Article 52(4) states that mere methods of treatment or diagnosis for medical or veterinary purposes are not independently patentable. However, products including substances or compositions used in these methods are patentable. Therefore, pharmaceuticals comprising novel compositions or substances are patentable. Article 54(5) also permits the patentability of any chemical substance or composition which has been previously known in the art but which has a novel pharmaceutical use. Further, the plain language of neither Article 52 nor Article 54 makes any distinction between the patentability of the first use of a pharmaceutical as opposed to its second use.

The traditional view in the European Patent Office has been that under Article 52(4), a novel pharmaceutical is patentable independently. Further, under Article 54(5), a pharmaceutical comprising a known substance is patentable, although the patent protection is limited to product by use claims. In other words, the pharmaceutical product or composition can be claimed in a product claim, but this product claim must be limited to the specific use. For example, a claim might read a pharmaceutical composition X for use in the treatment of disease Y. However, the traditional belief in the EPO has also been that the pharmaceutical is patentable only as to the first medicinal use. Until recently, there has been no patent protection,

Methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practiced on the human or animal body shall not be regarded as inventions which are susceptible of industrial application within the meaning of paragraph (1). This provision shall not apply to products, in particular substances or compositions, for use in any of these methods.

8 EPC Article 54(5)

The provisions of paragraphs (1)-(4) shall not exclude the patentability of any substance or composition, comprised in the state of the art, for use in a method referred to in Article 2, paragraph (4), provided that its use for any method referred to in that paragraph is not comprised in the state of the art.

⁷ EPC Article 52(4)

⁹ In Re Eisai, supra note 4, at 89.

¹⁰ Klopsch, supra note 1.

even limited to use claims, for the second medicinal indication of a known pharmaceutical. However, the Enlarged Board of Appeals of the European Patent Office:

considers that it is legitimate in principle to allow claims directed to the use of a substance or composition for the manufacture of a medicament for a specified new and inventive therapeutic application, even in a case in which the process of manufacture as such does not differ from known processes using the same active ingredient.¹¹

Thus, it appears possible that use claims directed to the manufacture of a pharmaceutical for a second use will be allowed in the EPO.

"Guidelines for examination in the European Patent Office" 61:C-IV(4.2) states that methods of treatment of humans or animals are not patentable, although surgical, therapeutic, or diagnostic treatments, apparatus, or products are. But the guidelines specifically limit the patentability of a known substance to the first pharmaceutical use.¹²

The support for such an interpretation of the language of the EPC appears in its legislative history. The minutes of the Munich Diplomatic Conference for Setting up the European System for the Grant

¹¹ In Re Eisai, supra note 4, at 90.

Guidelines for Examination in the European Patent Office 61:C-IV(4.2).

Methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practiced on the human or animal body shall not be regarded as inventions which are susceptible of industrial application. Patents may, however, be obtained for surgical, therapeutical, or diagnostic treatments or apparatus for such use or methods... Patents may also be obtained for the products for use in those methods of treatment or diagnosis, particularly substances or compositions. However, in the case of a known substance or composition, this may only be patented for the first such use... a patent for the substance or composition limited to that use may be obtained although the same substance or composition could not be subsequently be patented for curing a different disease.

of Patents, Proceedings of the Maine Committee, ¹³ make clear that it was the intention of the drafters of Article 54(5) to allow patentability of only the first medicinal use of a known substance.

After the adoption of the EPC, many of the member states amended their individual patent laws to conform with the provisions of the Convention. Many of the countries, therefore, have sections that correspond to Article 52(4) and Article 54(5). These individual countries are now beginning to publish case law interpreting these particular sections. Thus far, Switzerland, England and Denmark have definitively ruled that, following the apparent legislative intent of the EPC, the second indication of a pharmaceutical is not patentable even as to use claims.

Article 7c of the Swiss Patent Act of 1978 defines the standard of novelty necessary to support claims to a therapeutic composition.¹⁴ In May of 1978, the Federal Office for Intellectual Property in Switzerland considered the question of whether a known compound or mixture can only be considered as novel according to Article 7c when it is utilized for the first time for a surgical, therapeutic, or diagnostic purpose, or whether its novelty is also to be conceded for each new use

Minutes of the Muniche Diplomatic Conference for Setting Up The European System for the Grant of Patents, Paragraph 54, Sopharma S.A.'s Application, 14 I.I.C. 661, Patent Office, London (1982).

The Netherlands delegation proposed that the wording of paragraph 5 should be improved. It said it did not wish its proposal to break away from the principle that only the first application in respect of the use of a known substance or composition in a method for treatment of a human or animal body by surgery or therapy is patentable, and not the second and subsequent applications... the Chairman replied to the Yugoslav delegation and said that, in his opinion, the aim of paragraph 5 was to make clear that a known substance (or a known composition) which, since it formed part of the state of the art, was no longer patentable, nevertheless could be patentable for the first use in a method or treatment of the human or animal body by surgery or therapy; however, a further patent could not be granted if a second possible use were found for the same substance, irrespective of whether the human or animal body was to be treated with it.

¹⁴ Swiss Patent Act of 1978, Article 7c Compounds or compound mixtures which, as such, do not belong to the state of the art with regard to their use in surgical, therapeutical, and diagnostic method according to Article 2b and which are not subject to a prior right, are deemed as novel, as far as they are only intended for such use.

for such a purpose.¹⁵ The Office ruled that a second indication cannot be protected in a patent claim for the use itself, as a therapeutic treatment method. The second indication of a known pharmaceutical, then, is not subject to patent protection of any kind in Switzerland.

In a June 21, 1982 decision, the Patent Office of the United Kingdom also held the second indication of a known pharmaceutical to be unpatentable. The ruling is based on the United Kingdom Act of 1977, Sections 2(6) and 13Ø(7). Section 13Ø(7) declares that a number of provisions of the Act, including 2(6) "are so framed as to have, as nearly as practicable, the same effects in the United Kingdom as the corresponding provisions in the European Patent Convention." Section 2(6) corresponds to Article 54(5) of the EPC. In its interpretation of Article 54(5), the Patent Office of the United Kingdom looked to the legislative history of the Article. Based upon its analysis of the legislative history, the U.K. Patent Office denied patentability to the second indication of a pharmaceutical.

In 1984, the U.K. Patent Office again denied patentability to the second indication in *In re Bayer*.¹⁷ The Office rejected the analysis of the Federal Supreme Court of Germany in its decision on the corresponding German application, ¹⁸ and followed its reasoning in *Sopharma S.A.'s Application* in holding that patent protection is limited to the first indication of a pharmaceutical.

Section 2(4) of the Danish Patent Act corresponds to EPC Art 54(5), and thus also precludes patentability of the second medicinal use of a known pharmaceutical.²⁰

Certain other EPC countries, however, apparently accept that the patentability of the second medicinal use for a pharmaceutical is necessary, or at least possible. Germany is thus far the leading advocate of this view. To date, the Federal Supreme Court of Germany has handed down two decisions, both of which hold that a second indication of a known pharmaceutical is patentable, at least as to use claims.

¹⁵ Information from the Federal Office for Intellectual Property of Switzerland, 9 I.I.C. 569, (1978).

¹⁶ Sopharma S.A.'s Application, 14 I.I.C. 661, Patent Office, London (1982).

¹⁷ 5 Off. J. E.P.O. 233 (1984).

¹⁸ See infra, note 24 and accompanying text.

¹⁹ Supra note 16.

Koktvedgaard & Osterborg, Patents for Pharmaceutical Inventions in Denmark, 15 I.I.C. 415 (1984) at 421.

In a 1982 case, In Re Roelof Wilke Liebenberg, the Federal Supreme Court of Germany ruled the second pharmaceutical use to be patentable under the 1968 Patent Act, Sections 1 and 26(1).21 Here, the Court allowed claims to the use of beta-sitosterolglycosides and or betasitosterolglycoside esters in the treatment of hypertrophy of the prostate gland or rheumatory disorders. These compounds had previously been cited as having blood sugar reducing activity. The Court further held that the lower court's opinion that such claims, which do nothing more than direct the physician to use a known active substance for a new purpose, lack industrial application is legally in error.²² The Court stated that this type of teaching is industrially applicable since it usually also includes acts covered by the use claim which are not outside the area of industrial exploitation: for example, the formulation and preservation of the drug, its dosage, and its ready-to-use packaging. The Court emphasized that it is important not to confuse the patent law's separate requirements of novelty and of industrial application, and stated that the lower court had not adequately maintained this distinction.23

The German patent law was amended in 1978 to conform Sections 3(3) and 5(2) of the 1978 statute to Article 52(4) and 54(5) of the EPC.

In an oral hearing in 1983, the German Federal Supreme Court followed its ruling in the sitosterolglycoside case by holding a method claim for the new use of a known drug to be patentable. In re Bayer AG^{24} . In this case, the Court was interpreting the 1978 law. The Court found that Sections 3(3) and 5(2) of the 1978 German Act correspond to Articles 52(4) and 54(5) of the EPC, but that these sections do not preclude patentability of a second use of a known pharmaceutical. Further, the new indication will support use claims even when it does not involve a different method of administration. For example, if the pharmaceutical is orally administered in tablet form for its first use, it may also be administered in the same way for the second.

The German Court is of the opinion that the patentability of this second indication is not precluded by either the German Patent Act, or the identical, corresponding paragraphs of the EPC. This is based on the Court's statement that a teaching of a new, unobvious medici-

²¹ 14 I.I.C. 283. Fed. Sup. Ct. of Germany, (1982).

²² Id. at 285.

²³ Id. at 286; see also Comment, 14 I.I.C. 286 (1983) at 287.

²⁴ In Re Bayer AG, 15 I.I.C. 215, Federal Supreme Court of Germany (1983).

²⁵ Kolle & Stauder, First Symposium of European Patent Judges, 14 I.I.C. 471 (1982).

nal use is not carried out merely in a direction to the practitioner, but provides a new industrial application as well. This would seem to be true even if the medicine is prepared and embodied in exactly the same way as in the earlier use. For a new indication, new labels and instruction sets would have to be produced and provided.

Appellant Bayer, AG, has presented the same question, in the context of its parallel European patent application, to the enlarged Board of Appeals of the European Patent Office. The Board is expected to make a decision in the case in the near future.

In a Symposium of European Patent Judges, 25 the participants discussed the question of patentability of the second medicinal use with respect to Italian patent law. It was pointed out that the Italian legislature had unreservedly authorized the patenting of a new use of a known substance. The second and any further uses, it was said, were thus patentable in principle and it would be up to the courts to set forth conditions and limitations for such protection. The Italian view seems to be in harmony with that of Germany in the $Bayer\ AG$ case, although no definite rulings have as yet been handed down.

Conclusion

Although there are a number of arguments in support of and against patentability of a second pharmaceutical use, it does appear that claims directed to a second indication would be enforceable, and moreover, would be enforced against infringing pharmaceutical manufacturers, but not against individual prescribing physicians. Arguments pro and con remain largely a matter of policy.

Traditionally, the second use of a pharmaceutical has not been considered to be patentable in Europe. Articles 52(4) and 54(5) of the European Patent Convention were drafted to preclude this possibility. Several countries, notably England, Switzerland and Denmark, follow this view, and hold the use of a known pharmaceutical to be unpatentable. However, other countries, particularly Germany, hold the view that a second use is patentable. Such cases as those decided in Germany, then, represent a divergence between European and harmonized national patent law. The European Patent Office Enlarged Board of Appeals has recently held that a claim directed to the second medicinal use of a substance is in conflict with Article 52(4) of the EPC, and is therefore not patentable. However, the Board also stated, in dicta, that it may be possible to obtain patent coverage for the method of manufacturing the pharmaceutical for the new use, even if the method is known. Thus, it would appear that at least some patent protection for the new use may be possible in the EPO and in any

24 IDEA - The Journal of Law and Technology

countries in accord with the EPO's theory as set forth above; but that creative claim drafting may be required to obtain such patent protection.

REFERENCES

- ¹ In re Bayer AG, 15 I.I.C. 215, Federal Supreme Court of Germany, (1983).
- ² Pagenberg, Comment, 15 I.I.C. 229, (1984).
- ³ In Re Roelof Wilke Liebenberg, 14 I.I.C. 283, Fed. Sup. Ct. of Germany, (1982).
- ⁴ de Minvielle-Devaux, Comment, 14 I.I.C. 286 (1983).
- ⁵ Sopharma S.A.'s Application, 14 I.I.C. 661, Patent Office, London (1982).
- ⁶ Information from the Federal Office for Intellectual Property of Switzerland, 9 I.I.C. 569, (1978).
- Gaumont, Patentability and Patent Scope of Pharmaceutical Inventions, 13 I.I.C. 431 (1982).
- 8 Klopsch, Patentability of Pharmaceuticals According to the European Patent Convention (EPC), 13 I.I.C. 457 (1982).
- ⁹ Suchy, Patent Protection for a Second Medicinal Use, 13 I.I.C. 471 (1982).
- ¹⁰ Kolle & Stauder, First Symposium of European Patent Judges, 14 I.I.C. 471 (1982).
- ¹¹ Guidelines for Examination in the EPO, 61:C-IV, (4.2).
- ¹² EPC Articles 52(4) and 54(5).
- 13 Swiss Patent Act of 1978, Article 7(c).
- ¹⁴ Gruber & Kroher, Patentability of Pharmaceutical Inventions A Comparison of the Legal Situation in Germany and Some Common Law Countries-Part One, 15 I.I.C. 588 (1984).
- ¹⁵ In Re Eisai Co., Ltd., 16 I.I.C. 83, Enl. Bd. App. Eur. Pat. Off. (1985).
- ¹⁶ Koktvedgaard & Osterborg, Patents for Pharmaceutical Inventions in Denmark, 15 I.I.C. 415 (1984).
- ¹⁷ Legal Advice from the Swiss Federal Intellectual Property Office, 16 I.I.C. 91 (1985).
- ¹⁸ Gruber & Kroher, Patentability of Pharmaceutical Inventions A Comparison of the Legal Situation in Germany and Common Law Countries-Part Two, 15 I.I.C. 726 (1984).
- ¹⁹ de Minvielle-Devaux, The Patenting of Further Medical Indications, CIPA 221 (March, 1985).
- ²⁰ In Re Bayer, 5 Off. J. E.P.O. 233 (1984).

COMBINING APPLICATIONS FOR FILING IN THE U.S.

BY GREGORY J. MAIER AND ROBERT F. GNUSE*

One of the most troubling issues that continues to face patent practitioners outside of the U.S., is the requirement of U.S. law that a patent application be filed in the name of the inventor. The problem is relatively simple when only one inventor exists, but uncertainty increases rapidly as multiple inventors or inventive entities¹ are involved. Typically, the question of joint inventorship is raised when practitioners outside the United States are faced with inventions that are closely related, but are described in separate patent applications listing separate inventive entities in the country of origin. The foreign practitioner often desires to combine the separate applications into a single application for filing in the U.S. Yet, care must be taken to ensure that the combination of foreign applications into a single U.S. application is proper. Otherwise, a shadow of doubt may be cast over the validity of any patent that may issue. Understanding when such a combination of foreign applications into a single U.S. application is proper, requires an understanding of the U.S. law on joint inventorship. Unfortunately, the U.S. law itself is somewhat nebulous. However, there are trends that can be used to suggest guidelines for indicating when it is proper to combine foreign applications of different inventive entities into a single U.S. application.

The U.S. Patent Code² states:

When an invention is made by two or more persons jointly, they shall apply for patent jointly and each sign the application and make the required oath, except as otherwise provided in this title.

^{*}Mr. Maier is a partner in the firm of Oblon, Fisher, Spivak, McClelland & Maier, and Mr. Gnuse is an associate in the same firm.

Jorda, "Inventorship Discrepancies Between Foreign Priority and U.S. Applications," 7 A.P.L.A. Q.J. 145 (1979)

² 35 U.S.C. 116, (1982).

26

In the past, there has been no clue in the statute as to exactly what the relationship must be between two inventors for them to be considered "joint" inventors. Certainly, if the inventors work together and openly cooperate with one another in developing the invention sought to be patented, there is no doubt that the parties are joint inventors. But what are the outer limits, the minimal levels of communication required of joint inventors?

This question has been partially answered by an amendment to the patent statutes,³ signed into law by President Reagan on November 8, 1984. This amendment adds the following language to 35 U.S.C. 116:

Inventors may apply for a patent jointly even though (1) they did not physically work together or at the same time, (2) each did not make the same type or amount of contribution, or (3) each did not make a contribution to the subject matter of every claim of the patent.

This amendment codifies the well known concept, that it is not necessary that the entire inventive concept should occur to each of the joint inventors or that the two must physically work together on the invention. The inventors need not work on the invention at the same time or in the same place, but they must collaborate. What is sufficient collaboration? Certainly, if there is absolutely no communication between two parties, they cannot be considered joint inventors, as some form of communication of information from one joint inventor to the other is absolutely required. This communication need not be a face-to-face, two-way dialog but can amount to one inventor simply reading the work of the other. It is therefore possible to have joint inventorship where a second inventor reads the work of a first inventor after the first has died.

In the course of their collaboration, the joint inventors must share some knowledge of the general goal or end toward which they were working. Furthermore, all inventors must contribute something of importance to the joint invention. Sufficient importance of the contribution is generally assumed when the question of combining foreign applications is considered, as the assumption is made that each foreign application contains something of significance or it would not have

Public Law 98-622 Section 104(a). Patent Law Amendments of 1984, Pub. L. No. 98-622, §104(a), 98 Stat. 3383, 3384.

⁴ Monsanto Co. v. Kamp, 269 F. Supp. 818, 824, 154 USPQ 259, 262 (D. D.C. 1967).

S. W. Farber, Inc. v. Texas Instruments, Inc., 211 F. Supp. 686, 690, 135 USPQ 394, 398 (D. Del. 1962).

⁶ Pointer v. Six Wheel Corp., 177 F.2d 153, 157-8, 83 USPQ 43, 47 (9th Cir. 1949).

been filed. Nevertheless, some discussion of the contribution of the various joint inventors is warranted.

The amended law makes it clear that the contributions of each inventor need not be of the same type or amount, codifying prior case law. Thus, one joint inventor may have contributed a major portion of the invention while another may have contributed only a small portion. This principle was clearly set out in the leading case of De Laski & Thropp Circular Woven Tire Co. v. William R. Thropp & Sons Co. 8

In order to constitute two persons joint inventors, it is not necessary that exactly the same idea should have occurred to each at the same time, and that they should work out together the embodiment of that idea in a perfected machine. The conception of the entire device may be due to one, but if the other makes suggestions of practical value, which assisted in working out the main idea and making it operative, or contrubutes an independent part of the entire invention, which is united with the parts produced by the other and creates the whole, he is a joint inventor, even though his contribution be of comparatively minor importance and merely the application of an old idea.

Although this case is old, it has been widely accepted and is currently cited⁹ as the standard by which this question should be measured. A similar point was made in *Monsanto Co. v. Kamp*: 10

Each needs to perform but a part of the task if an invention emerges from all of the steps taken together.... The fact that each of the inventors plays a different role and that the contribution of one may not be as great as that of another, does not detract from the fact that the invention is joint, if each makes some original contribution....

However, the contribution of one of the inventors must not be a separate and distinct invention. This principle is mentioned in *De Laski*, citing earlier precedent in *Worden v. Fisher*¹¹ and *Stewart v. Tenk.*¹² Thus, if the "contribution" of one of the inventors is really a distinct and independent inventive component, rather than an intrinsic element of the basic invention, that inventor is not considered a joint inventor, but, rather, an independent and unrelated inventor. Similarly, a person who is a sole inventor of one independent element of a combination is not necessarily a joint inventor of the combination,¹³

Payne v. Natta, Primo and Mazzanti, 172 USPQ 687, 694 (PTO Bd. Int., 1971).

Be Laski & Thropp Circular Woven Tire Co. v. William R. Thropp & Sons Co., 218 F. 458, 464 (D. N.J. 1914), aff'd 226 F. 941 (3rd Cir. 1915).

In re Certain Steel Rod Treating Apparatus, 215 USPQ 237, 255 (U.S. International Trade Commission 1981).

¹⁰ See supra note 4.

¹¹ Worden v. Fisher, 11 F. 505 (E.D. Mich. 1882).

¹² Stewart v. Tenk, 32 F. 665 (S.D. Ill. 1887).

¹³ See supra note 4.

as the inventorship of the combination is a separate and distinct issue from the inventorship of the component element.

Given this background, let us assume that a foreign practitioner is considering filing in the United States. He has two applications disclosing closely related technology filed in his native country. The inventors named in these two applications are different, yet they both work together in the same department and are both engaged in research in the same technical field. There is no doubt that they have engaged in communications with one another, at least to the extent that one has reviewed the work of the other prior to inventing the subject matter of his own application. The practitioner reaches the conclusion that under applicable U.S. law he can combine the two native applications into a single U.S. application based upon the law of joint inventorship in the United States. If the practitioner is correct, no problem arises. But let us assume further that he is wrong that the two applications do not disclose a single joint invention, but two independent inventions.14 A single U.S. application is filed in good faith as the foreign practitioner is not aware of his error. What happens?

If the U.S. Examiner determines that two independent and distinct inventions are claimed, he issues a restriction requirement. The response to the restriction requirement must include an election of one of the two claimed inventions. If the restriction requirement is made final, the foreign practitioner will be aware that his combination of the two foreign applications into a single U.S. application was an error because no joint invention was made. A change in inventorship is required, and can be routinely made as provided for under 35 U.S.C. 116 and 37 C.F.R. 1.48, which requires a petition, a declaration by each inventor, a fee, and consent of any assignee. Such a change must be made diligently and without deceptive intent.¹⁵

If the discovery that separate inventions exist takes place after a patent issues, correction may still be made, although with more difficulty. A reissue application may be filed and then divided into two separate applications, each claiming one invention and naming only the proper inventor.¹⁶

Note that the traditional approach of the CCPA has been to determine inventorship on a claim-by-claim basis. Under this standard, inventorship may change as the claims are amended. See In re Sarett, 327 F.2d 1005, 140 USPQ 474 (CCPA 1964). This problem has been eliminated by Public Law 98-622, which states that inventors need not contribute to each claim.

^{15 37} CFR 1.48 (1984).

¹⁶ 35 USC 251. Ex parte Scudder, 169 USPQ 814 (PTO Bd. App. 1971).

The courts have consistently held that there is a strong presumption that the inventorship in an issued patent is correct. If a change must be made, 35 U.S.C. 256 assures that:

The error ... shall not invalidate the patent in which such error occurred if it can be corrected as provided in this section.

The courts have followed this principle for nearly a century. 17

Error in misjoining the inventors is not by itself, an indication of fraud. However, fraud may be present in other related acts, such as misjoining the inventors to avoid the discovery of a published article by one of the inventors or any similar ulterior motive.

Whether a desire to avoid incurring multiple filing fees could in itself be adjudicated an "ulterior motive" is, of course, a critical question presently unanswered. However, absent an ulterior motive, simple misjoinder will not be construed by the courts as fraudulent, and hence no loss of patent rights results.

A related issue is whether a foreign applicant can claim priority in a single U.S. application based upon two or more priority documents, each naming only some of the inventors named jointly in the U.S. case. Although this precise question has not been conclusively answered, such a claim for priority appears to be proper. The Manual of Patent Examining Procedure (MPEP) at 201.15 directs:

If there is disagreement as to inventors on the certified copy, the priority date should be refused until the inconsistency or disagreement is resolved.

This is not to say that it should be finally refused, only that the inconsistency must be resolved. Thus, if the Examiner questions that difference in inventorship between the various priority documents and the U.S. application, the circumstances should be explained to him, leaving the Examiner free to question or accept the determination of joint inventorship. Bruce Collins²⁰ has criticized this requirement and set forth solid reasons why the Patent and Trademark Office is without legal or logical basis for a requirement of consistent inventorship. It should be noted that $Monsanto^{21}$ includes a holding that joint inventorship existed in the U.S. even though a corresponding Canadian application did not indicate joint inventorship.

¹⁷ Butler v. Bainbridge, 29 F. 142 (S.D. N.Y. 1886).

¹⁸ In re Sarett, 327 F.2d 1005, 1010 n. 7, 140 USPQ 474, 479 n.7 (CCPA 1964).

¹⁹ In re Schmidt, 293 F.2d 274, 130 USPQ 404 (CCPA 1961).

Collins, "The Significance of Inventorship Determinations for Foreign and Domestic Inventors," 7 A.P.L.A. Q.J. 117 (1979).

²¹ See supra note 4.

Where the foreign priority document is not in English, a very common situation, it is possible that the Examiner may not realize there is a difference between the inventorship indicated on the priority documents and that in the U.S. Application. In such cases advising the Examiner of the difference in inventorship would eliminate any possible argument as to lack of candor in this regard.

Of course, from a practical point of view, the claim for priority is examined carefully by the PTO only when the priority date is relied upon to overcome a reference. This occurs in a small percentage of cases. Thus, while priority documents naming different inventors may clearly suggest that several foreign applications with different inventive entities have been combined into a single U.S. application, it is quite rare that the U.S. Examiner raises a question as to the propriety of the combination.

Although now finally rectified by the above quoted amendment to 35 USC 116, the history of the troubling issue of joint contributions to the claims is interesting. A question has long existed as to whether the invention defined in each and every claim of an application filed in the name of joint inventors must be jointly invented. The traditional view was that each claim in an application must recite an invention made by the named inventor or inventors, and that any claim directed to an invention made by a different inventive entity (even if it is one of the named joint inventors) should be presented in a separate application. This rule is traceable through De Laski²² and Stewart²³. As recently as 1964, the CCPA said, in a footnote in *In re Sarett:*

It should be clear that the patent could not legally contain a claim to Sarett's sole invention under existing law because it would not have been the invention of the joint patentees.24 (emphasis in original.)

The Patent and Trademark Office Board of Appeals followed the Sarett "rule" as recently as 1981.25

Gradually a number of courts began to move away from the Sarett "rule." The U.S. District Court for the Eastern District of Virginia said in regard to the meaning of "joint" as requiring contributions by all inventors to each claim:

Neither the statute nor any rule of the Patent Office . . . cited to the Court provides such a restrictive meaning of the term "joint."26

²² See supra note 8.

²³ See supra note 12.

²⁴ See supra note 18.

²⁵ Ex parte Martin and Spector, 215 USPQ 543, 544 (PTO Bd. App. 1981).

²⁶ SAB Industri AB v. Bendix Corp., 199 USPQ 95, 104 (E.D. Va 1978)

This approach was followed in 1980 by the District Court for the Northern District of Alabama, ²⁷ which reasoned that if one could change the inventorship for all claims of a patent, it should certainly be possible to change the inventorship for only some of the claims. The basis for this conclusion was the A.F. Stoddard & Co. v. Dann, ²⁸ and the liberal construction of the statutory law with respect to another inventorship issue contained therein. The district Court for the District of Minnesota, in 1981, reached the same conclusion in Vekamaf Holland B.V. v. Pipe Benders, Inc. ²⁹ The District Court for the Central District of California cited Vekamaf in support of its similar decision in Rosemount Inc. v. Beckman Instruments. ³⁰

Thus, the District Courts established a trend away from the traditional approach adopted by the CCPA and accepted by the PTO Board of Appeals. The conflict between these different points of view has finally been put to rest by the recent amendment to 35 U.S.C. 116.

This change in the statutory law will eliminate some of the problems encountered in the past in combining multiple foreign applications into a single U.S. application. Where a proper combination of foreign applications produces in a U.S. application, an inventorship including inventors who have contributed to all of the claims, the U.S. application is clearly proper and need not be divided under the amended law. A "proper" combination occurs where joint inventorship is established. Although the amended law does not permit applications disclosing two independent inventions to be combined, it does permit combinations of several foreign applications of differing inventorship when the foreign applications disclose various embodiments of a single inventive concept.

The same recent statutory amendment includes several other changes, some of which also relate to problems of inventorship.

One such change relating to inventorship was made in 35 U.S.C. 120, which now allows an application to be considered a continuing application where the inventive entity in the continuing application is not exactly the same as in the parent.³¹ Thus, when an examiner determines that an application includes two independent inventions and requires restriction, a subsequent divisional application will be considered proper even if the restriction requires a different designation

²⁷ Racal-Vadic, Inc. v. Universal Data Systems, 207 USPQ 902, 929 (N.D. Ala. 1980).

²⁸ A.F. Stoddard & Co. v. Dann, 564 F.2d 556, 195 USPQ 97 (D.C. Cir. 1977)

²⁹ Vekamaf Holland B.V. v. Pipe Benders, Inc., 211 USPQ 955 (D. Minn. 1981).

Rosemount Inc. v. Beckman Instruments, Inc., 569 F. Supp. 934, 218 USPQ 881 (C.D. Cal. 1983), aff'd 727 F.2d 1540, 221 USPQ 1 (Fed. Cir. 1984).

³¹ See supra note 3 at §104(b).

of inventorship in the divisional and parent cases. The amendment removes the possibility of losing an earlier filing date when two foreign applications are wrongly combined into a single U.S. application, and then later divided with a change in inventorship.

Another of these changes adds a new sentence to 35 U.S.C. 103, preventing the rejection of a claim on subject matter which qualifies as prior art only under subsections (f) or (g) of section 102, when the subject matter and the claimed invention were commonly owned at the time the invention was made.³² This change is essentially a codification of the recent General Motors-Toyota decision.³³ It prevents material developed by one part of a corporate research team from becoming prior art against the final invention produced by the team. It is especially meaningful to organizations involved in research, and may occasionally prevent the rejection of an application or invalidation of a patent by one member of a research team on prior art produced by a fellow team member.

In summary, inventors can be considered "joint" inventors in the U.S. as long as there is collaboration among them, they work toward the same general goal, and each contributes to a particular invention, rather than to a separate, independent invention. Furthermore, the risk of error in combining separate foreign applications into a single U.S. application, under the proper circumstances, is now less severe in view of the recent amendments to the patent code of the United States.

See supra note 3 at §103.

³³ General Motors Corp. v. Toyota Motor Co., Ltd., 212 USPQ 659 (6th Cir. 1981), cert. denied, 215 USPQ 95 (1982).

CURRENT LITERATURE IN LAW/SCIENCE: POLICY AND INTELLECTUAL AND INDUSTRIAL PROPERTY

COMPILED BY JUDITH GIRE NORCROSS*
AND LISA A. MITTEN**

INDUSTRIAL/INTELLECTUAL PROPERTY — UNITED STATES

- Abbott, John. Protecting Ideas, 2 INT'L. MEDIA L. 52 (No. 7 1984).
- Adler, Reid G. Biotechnology as an Intellectual Property, 224 SCIENCE 357 (1984).
- Banner, Donald W. INTELLECTUAL PROPERTY LAW REVIEW 1983. New York: Clark Boardman, 1983. 426 p.
- Baxter, William F. The Definition and Measurement of Market Power in Industries Characterized by Rapidly Developing and Changing Technologies, 53 ANTITRUST L. J. 717 (1984).
- Bhatnagar, M. P. Utility Model System: A New Tool for Protection of Inventions, 19 INVENTION INTELLIGENCE 112 (No. 3 1984).
- Bramson, Robert S. Intellectual Property as Collateral Patents, Trade Secrets, Trademarks, and Copyrights, 36 BUS. LAW 1567 (1981).
- Captain, T. R. The Protection of Intellectual Property, 35 J. SYS. MGMT. 18 (July 1984).
- Dorr, Robert C. and William P. Eigles. Resolving Claims to Ownership of Software and Computer-Stored Data: The Importance of Temporary Restraining Orders and Preliminary Injunctions, 5 COMPUTER L. J. 1 (Summer 1984).

^{*}J.D. Franklin Pierce Law Center, A.M.L.S., Michigan; Law Librarian, Franklin Pierce Law Center.

^{**}M.L.S. University of Pittsburgh; Cataloger/Information Scientist, Franklin Pierce Law Center.

- Fischer, Mark A. Entertainment-Computer Law: Converging Industries, Converging Law, 20 TRIAL 42 (1984).
- Ordover, Janusz A. Economic Foundations and Considerations in Protecting Industrial and Intellectual Property, 53 ANTITRUST L. J. 503 (1984).
- Turner, Donald F. Basic Principles in Formulating Antitrust Constraints on the Exploitation of Intellectual Property Rights, 53 ANTITRUST L. J. 485 (1984).
- Victor, A. Paul. Preventing Importation of Products in Violation of Property Rights, 53 ANTITRUST L. J. 783 (1984).
- Williams, Sidney B. Protection of Plant Varieties and Parts as Intellectual Property, 225 SCIENCE 18 (6 July 1984).

INDUSTRIAL/INTELLECTUAL PROPERTY — INTERNATIONAL

- Bonet, Georges. Propriétiés Intellectuelles, 20 REVUE TRIMES-TRIELLE DE DROIT EUROPÉEN 299 (1984).
- Cohen Jehoram, Herman. CENTRAL ISSUES OF INTELLECTUAL PROPERTY AND MEDIA LAW. Zwolle: Tjeenk Willink, 1984. 234 p.
- Cohen Jehoram, Herman. Cumulatieve Rechts Bescherming van Industriële Vormgeving en de Eenheid van de Intellectuele Eigendom, 52 BIJBLAD BIJ DE INDUSTRIËLE EIGENDOM 183 (No. 7 1984).
- Drucker, W. H. and G. H. C. Bodenhausen. KORT BEGRID VAN HET RECHT BETREFFENDE DE INTELLECTUELE EIGENDOM. Zwolle: Tjeenk Willink, 1984. XXVI 225 p.
- Mille, Antonio. Performers' Rights: A New, Independent Institution of Intellectual Property Law, 20 COPYRIGHT 289 (No. 7/8 1984).

<u>INDUSTRIAL/INTELLECTUAL PROPERTY — BY COUNTRY</u>

- Association Nationale des Licencies en Droit. DROIT D'AUTEUR, DROITS VOISINS, COMMUNICATION AUDIOVISUELLE. Bordeaux: A.N.L.D., 1984. V 218 p.
- Bercovitz, Alberto, Tomas de Las Heras Lorenzo, and Jose Macias Martin. LEGISLACIÓN SOBRE PROPIEDAD INDUSTRIAL. Madrid: Tecnos, 1984. 1040 p.
- Berenboom, Alain. LE DROIT D'AUTEUR. Bruxelles: Maison F. Larcier, 1984, 293 p.

- Bois, Rob du. Over Enkele Aspecten Van Het Morele Recht Van de Auteur, 8 AUTEURSRECHT 56 (No. 3 1984).
- Gaillard, Emmanuel. La Double Nature du Droit à l'Image et Ses Conséquences en Droit Positif Français, RECUEIL DALLOZ SIREY 161 (No. 26 1984).
- Gaul, Dicter. Die Schutzrechtsveräusserung Durch den Arbeitnehmer and Deren Auswirkungen auf das Mittenutzungsrecht des Arbeitgebers, 86 GEWERBLICHER RECHTSSCHUTZ UND URHEBERRECHT 494 (No. 7 1984).
- Guttman, David S. Protecting Intellectual Property: An American Viewpoint, 5 SPEAKING OF JAPAN 15 (No. 41 1984).
- Knap, Karel. Entwicklungstendenzen im Urheberrecht der Tschechoslowakei, 28 FILM UND RECHT 300 (No. 6 1984).
- Leroy, Gérard. Une Preposition de Loi Sur Law Reprographie, 74 REVUE DE DROIT INTELLECTUEL L'INGÉNIEUR-CONSEIL 129 (No. 5/6 1984).
- Luck, J. M. Industrial Property, 12 AUSTL. BUS. L. REV. 142 (1984).
- Maki, Yuzo. Protecting Intellectual Property: the Japanese Patent Office's Response, 5 SPEAKING OF JAPAN 22 (No. 41 1984).
- Peeperkorn, D. H. M. Wetgeving Tegen Piraterij, 8 AUTEURSRECHT 43 (No. 3 1984).
- Plaisant, R. La Protection du Logiciel par le Droit D'Auteur (Programme d'Ordinateur), 103 GAZETTE DU PALAIS 2 (No. 268/270 1984).
- Protecting Intellectual Property in Taiwan Non-Recognized United States Corporations and Their Treaty Right of Access to Courts, 60 WASH. L. REV. 117 (1984).
- Roberts, D. Patenting the New Technology and Its Components <u>IN</u> ASSOCIATION OF VETERINARIANS IN INDUSTRY NEW BIOTECHNOLOGY SYMPOSIUM. London: Beecham Pharmaceuticals Co., 1983.
- Ruter-Ehlermann, A.L. Het Auteursrecht Losbandig?, 8 AUTEURS-RECHT 50 (No. 3 1984).
- Smith, F. J. Computerization of the Australian Patent, Trade Mark and Design Office, 6 WORLD PAT. INFORMATION 76 (No. 2 1984).

PATENTS — UNITED STATES

Aguilar, J. Arnold. Proprietary Protection of Computer Software in the United States and Brazil, 19 TEXAS INT'L. L. J. 643 (1984).

- Aisenberg, Irwin M. A Step Beyond Novelty. Utility and Non-Obviousness, 25 IDEA 121 (1984).
- Andewelt, Roger B. Analysis of Patent Tools Under the Antitrust Law, 53 ANTITRUST L. J. 611 (1984).
- Beardsley, Tim. Patents Extended, Generics Agreed, 311 NATURE 198 (Sept. 20, 1984).
- Becker, Stephen A. Means-Plus-Function Claims in Computer Related Patent Applications Within the United States, 5 COMPUTER L. J. 25 (Summer 1984).
- Bramson, Robert S. Intellectual Property as Collateral Patents, Trade Secrets, Trademarks and Copyrights, 36 BUS. LAW. 1567 (1981).
- Budiansky, Stephen. Rows Continue Over U.S. Patent Life, 310 NA-TURE 176 (19 July 1984).
- Cooper, Iver P. Do We Need a Special Patent Law for Biological Inventions?, 2 BIO/TECHNOLOGY 192 (1984).
- Dickson, David. Pressure for Patent Reform, 224 SCIENCE 137 (1984).
- Elman, Gerry J. Cetus Request for Review of DNA Probe Patent: A Unique Move to Guard License, 4 GENETIC ENGINEERING NEWS 3 (Sept. 1984).
- Feiler, William S. Computer Aided Litigation Support in Patent Litigation, 25 IDEA 177 (1984).
- Fox, Jeffrey L. Gene Splicers Square Off in Patent Courts, 224 SCIENCE 584 (1984).
- Fox, Jeffrey L. Patents Encroaching on Research Freedom, 224 SCI-ENCE 1080 (1984).
- Freed, Roy N. Legal Interests Related to Software Programs: An Analysis With Emphasis on U.S. Law, 14 PAT. AND LICENSING 25 (No. 2 1984).
- Geren, Gerald S. Design Patents Infringements, Damages, and Profits, 26 RESEARCH & DEV. 31 (1984).
- Hamburg, C. Bruce and Helene J. Pines. U.S. Patent and Trademark Law Developments, 82 PAT. & TRADEMARK REV. 511 (1984).
- Hoerner, Robert J. Patent Misuse, 53 ANTITRUST L. J. 641 (1984).
- Hooper, J. Patents Progress: Tomorrow Today, 7 PRACT. COMPUTER 41 (June 1984).

- Ishimaru, M. Profitability. Protecting Programming: Patents, Trade Secrets, and Licensing Software IN DIGEST OF PAPERS COMPCON SPRING '84. Silver Spring, MD: IEEE Computer Society Press, 1984. P. 218-23.
- Karny, Geoffrey m. Patenting Biotechnology, 6 RECOMBINANT DNA TECH. BULL. 145 (1983).
- Karolow, C. Patents as a Source of Scientific and Technological Information <u>IN</u> NATIONAL ONLINE MEETING PROCEEDINGS — 1984. Medford, N. J.: Learned Information, 1984.
- Katona, Gabriel P. Neue "Rules of Practice" zum Patentrecht in USA, 75 MITTEILUNGEN DER DEUTSCHEN PATENTANWÄLTE 142 (No. 7/8 1984).
- Kobbe, Bruni. Cohen-Boyer Plasmid Patent Issues: Many Questions Linger, 4 GENETIC ENGINEERING NEWS 1 (Oct. 1984).
- Kulp, C. S. Patent Databases: A Survey of What is Available from DIALOG, Questel, SDC, Pergamon and INPADOC, 7 DATABASE 56 (August 1984).
- Levin, Richard C. Patents in Perspective, 53 ANTITRUST L. J. 519 (1984).
- Lourie, Alan D. Patent Term Restoration, 66 J. PAT. OFF. SOC'Y. 526 (1984).
- Lupo, R. V. and Donna M. Tanguay. The Domestic Industry Requirement of Section 377: A Definitional Problem in View of Off-shore Manufacture, 66 J. PAT. OFF. SOC'Y. 551 (1984).
- Marmorek, Ernest F. Zusatze zum Neuen U.S. Patentgesetz, 75 MITTEILUNGEN DER DEUTSCHEN PATENTANWÄLTE 101 (No. 6 1984).
- Misrock, S. Leslie. *Utilization of Patent and Trade Secret Protection in Genetic Engineering Developments*, 4 BATTELLE MEMORIAL INST. GENETIC ENGINEERING CONF. 33 (1981).
- PTO Practice (Reexamination Claim Construction), 66 J. PAT. OFF. SOC'Y. 569 (1984).
- Patent and Copyright Indemnification Clauses: Read Them Carefully, 3 SCOTT REP. 8 (May 1984).
- Patent Licensing Dramatization, 53 ANTITRUST L. J. 813 (1984).
- Rifkin, S. B. New Robot Patent Category, 6 ROBOTICS AGE 36 (Jan. 1984).

- Simmons, E. S. Central Patents Index Chemical Code: A User's Viewpoint, 24 J. CHEMICAL INFORMATION AND COMPUTER SCI. 10 (Feb. 1984).
- Sobel, Gerald. The Antitrust Interface With Patents and Innovation: Acquisition of Patents, Improvement Patents and Grantbacks, Non-Use, Fraud on the Patent Office, Development of New Products and Joint Research, 53 ANTITRUST L. J. 681 (1984).
- Taylor, Robert P. Licensing in Theory and Practice: Licensor-Licensee Relationships, 53 ANTITRUST L. J. 561 (1984).
- Teltscher, Erwin S. *Unzureichende Offenbarung im U.S. Patentrecht*, 75 MITTEILUNGEN DER DEUTSCHEN PATENTANWÄLTE 138 (No. 7/8 1984).
- Weston, W. Registered Inventions, TRADEMARKS, PAT. AND DE-SIGNS FED'N. MONTHLY REP. 1 (Aug. 1984).
- Whiting, Richard A. and others. Introduction and Overview of Basic Principles: The Patent/Antitrust Interface, 53 ANTITRUST L. J. 485 (1984).
- Wilson, Tazewell. Patent Issues Cloud Biotechnology's Future, 2 BIO/TECHNOLOGY 385 (1984).

PATENTS — INTERNATIONAL

- Beier, Friedrich-Karl. One Hundred Years of International Cooperation: the Role of the Paris Convention in the Past, Present and Future, 9 J. OF THE JAPANESE GROUP OF A.I.P.P.I., INTERNATIONAL ED. 3 (1984).
- Beier, Friedrich-Karl. Patents and Foreign Trade, 15 IIC 569 (1984).
- Bell, J. R. Patent Guidelines for Research Managers, EM-31 IEEE TRANSACTIONS ON ENGINEERING MGMT. 102 (August 1984).
- Blinnikov, V.I., V. V. Belov and M. A. Makarov. Some Problems in the Use of the International Patent Classification, 6 WORLD PAT. INFORMATION 63 (No. 2 1984).
- The Effects of Foreign Product Counterfeiting on U.S. Industry, 82 PAT. & TRADEMARK REV. 471 (1984).
- Haley, J. F. Current Status of the Patenting of the Fruits of Biotechnology and Genetic Engineering, <u>IN</u> THE WORLD BIOTECH REP. 1984, VOL. 2: USA. Middlesex, England: Online Pubs., 1984.
- Hearn, Patrick. Patent Licensing in the EEC, 128 SOLICITOR'S J. 523 (1984).

- Kalikow, Martin A. Comparison of USPTO, EPO and JPO Patent Practice, EUREKA 9 (No. 3 1984).
- Manzo, E. D. Does Your Programmed Computer Infringe the Patent? <u>IN</u>
 DIGEST OF PAPERS COMPCON SPRING '84. Silver Spring,
 MD: IEEE Computer Society Press, 1984. P. 224-8.
- Maurer, R. and C. E. Brossia. Forecasting the Progress of Robotics Through an Analysis of Patent Awards, paper presented at FORE-CASTING, 4TH INTERNATIONAL SYMPOSIUM, 8-11 July 1984. Sponsored by the International Institute of Forecasters. Abstracts booklet available from: Robert Fildes, Manchester Business School, Booth Street West, Manchester MI5 6PB, UK. 1984.
- The Paris Convention: Report on the Fourth Session of the Revision Conference, 82 PAT. & TRADEMARK REV. 452 (1984).
- Perry, Robert. What is a Patentable Biotechnological Invention? 1 ON-LINE BIOTECH 84 EUROPE CONF. 45 (May 1984).
- Rowland, B. I. Are the Fruits of Genetic Engineering Patentable? <u>IN</u> THE WORLD BIOTECH REP. 1984, VOL. 2: USA. Middlesex, England: Online Pubs., 1984.
- Scheer, Stefan. INTERNATIONALES PATENT-, MUSTER- UND WARENZEICHEN-RECHT. Hürth-Efferen; Köln: H. Scheer, 1984. 686 p.
- Schmidt, D. and H. G. Chojnacki. Services of the International Patent Information System of the CMEA Member Countries for the Patent Information Work in COMBINES, 31 INFORMATIK 10 (1984).
- Williams, S. B. Patent Protection of Genetically Engineered Plant Varieties and Parts Thereof, <u>IN</u> THE WORLD BIOTECH REP. '84 VOL.
 2: USA. Middlesex, England: Online Pubs., 1984.
- WIPO. A New Era for the PCT System, 15 IIC 636 (1984).

PATENTS — BY COUNTRY

- Aguilar, J. Arnold. Proprietary Protection of Computer Software in the United States and Brazil, 19 TEXAS INT'L. L. J. 643 (1984).
- Beauchemin, G. Great Canadian Drug Patent Expropriation, paper presented at CAN-AM CHEMICAL CONGRESS, 3-6 June 1984. Sponsored by the Chemical Institute of Canada and the American Institute of Chemists. Abstracts booklet available from: Chemical Institute of Canada, 151 Slater St., Suite 906, Ottawa, Ontario K1P 5H3, Canada.

- 40
- Boeters, Hans D. HANDBUCH CHEMIE-PATENT: ANMELDUNG, ERTEILUNG UND SCHUTZWIRKUNG EUROPÄISCHER UND DEUTSCHER PATENTE, Heidelberg: C.F. Müller Juristischer Vg, 1984. 236 p.
- Cartwright, J. Patent Protection <u>IN</u> COMPUTER SOFTWARE PACK-AGES ASSETS WORTH PROTECTING? London: Henry Stewart Conference Studies, 1984. 49 p.
- China: Notice on Claiming Priority from Foreign Patent Applications, 82 PAT. & TRADE MARK REV. 486 (1984).
- Gaul, Dieter. Die Arbeitnehmerer findervergütung Beim Vorratspatent, 75 MITTEILUNGEN DER DEUTSCHEN PATENTANWÄLTE 144 (No. 7/8 1984).
- Geisler, W. Struktur und Inhaltselemente des Anspruchs Sowjetischer Erfindungsbeschrelbungen, 33 DER NEUERER 68 (No. 5/6/B 1984).
- Government Agency Looking into Expanding Drug Patent Rights, 22 JAPAN ECON. 15 (26 June 1984).
- Gruber, Stephan and Jurgen Kroher. Patentability of Pharmaceutical Inventions A Comparison of the Legal Situation in Germany and Some Common Law Countries, Part One, 15 IIC 588 (1984).
- Häusser, Erich. Schutzrechte und Technische Information als Überlebensstrategie für das Einzelne Unternehmen und die Volkswirtschaft, 75 MITTEILUNGEN DER DEUTSCHEN PATENTANWÄLTE 121 (No. 7/8 1984).
- Hawk, Barry E. Patents Under EEC Competition Law, 53 ANTITRUST L. J. 737 (1984).
- Hellebrand, Ortwin. PATENTANMELDUNG LEICHT GEMACHT. Wörishofen: H. Holzmann, 1984. 423 p.
- Jones, Robert V. A. Braintrust, 1 BUS. & L. 10 (1984).
- New Patent Law of the People's Republic of China, 14 PAT. AND LICENSING 7 (No. 2 1984).
- PATENT LAW OF THE PEOPLE'S REPUBLIC OF CHINA, translated by The Chinese Patent Office. Beijing: Patent Documentation Publishing House, 1984. 40 p.
- Peiris, G. L. Patent Error of Law and the Borders of Jurisdiction: the Commonwealth Experience Assessed, 4 LEGAL STUDIES 271 (1984).
- Rask, I. Computer Programs Can't Be Patented, 4 IND. DATATEK. 53 (March 1984).

- Rassokhin, V. P. Iskliuchitel'noe Pravo Sovetskogo Gosudarstva na Izobreteniia = Droit Exclusif de L'Etat Socialiste sur les Inventions, VOPROSY IZOBRETATEL'STVA 16 (No. 6 1984).
- Repenn, Wolfgang. "Überbeglaubigung von Deutschen Öffentlichen Urkunden zur Vorlage bei Ausländischen Patentämtern, 75 MIT-TEILUNGEN DER DEUTSCHEN PATENTANWÄLTE 107 (No. 6 1984).
- Schramm, R. and W. Geisler. The Basics of Indexing, Abstracting and Translation of Soviet Patent Specification, 31 INFORMATIK 12 (1984).
- Schramm, R. Elements of Automated Patent Pre-Search, 31 INFOR-MATIK 30 (1984).
- Schwendy, Klaus Dieter. Aus der Rechtsprechung des Bundespatent gerichts im Jarh 1983, 86 GEWERBLICHER RECHTSSCHUTZ UND URHEBERRECHT 479 (No. 7 1984).
- Shipley, H. H. and R. G. Miselbach. Draft Block Exemption for Patent Licensing: An Appraisal of Revised Version 84/cc/1, 13 CIPA 333 (No. 9 1984).
- Tagg, Lawrence G. Selling Patent Information to Companies in the North East of England: An MSC-Funded Project, 6 WORLD PAT. INFORMATION 78 (No. 2 1984).
- Taiwan: Patent Law, 82 PAT. & TRADEMARK REV. 487 (1984).
- Trüstedt, Wilhelm. Schutzbereich des Deutschen Patents, 75 MITTEILUNGEN DER DEUTSCHEN PATENTANWÄLTE 131 (No. 7/8 1984).
- Woodley, John H. Patents on Life Forms: Does Abitibi Show Us the Way?, 13 CIPA 326 (No. 9 1984).

<u>COPYRIGHT — UNITED STATES</u>

- Annotated Principles of Protection of Authors, Performers, Producers of Phonograms and Broadcasting Organizations in Connection With Distribution of Programmes By Cable, 18 COPYRIGHT BULL. 5 (1984).
- Barkstrom, Jack. Copyright: The Fine Art of Protecting the Fine Arts, 13 COLO. LAW. 1383(10) (Aug. 1984).
- Bramson, Robert S. Intellectual Property as Collateral Patents, Trade Secrets, Trademarks and Copyrights, 36 BUS. LAW. 1567 (1981).

- Brylawski, E. Fulton. Publication: It's Role in Copyright Matters, Both Past and Present, 31 J. COPYRIGHT SOC'Y U.S.A. 507 (1984).
- Bussert, Christopher P. Copyright Law: A Review of the "Separability Test" and a Proposal for New Design Protection, 10 RUTGERS COMPUTER & TECH. L. J. 59 (1983).
- Copyright Protection of Systems Control Software Stored in Read Only Memory Chips: Into the World of Gulliver's Travels, 33 BUFFALO L. REV. 193 (1984).
- Copyrights for Chips: It's About Time!, 57 ELECTRONICSWEEK 84 (15 Oct. 1984).
- The Courts Establish the Rules For Videogames Under the Copyright Act of 1976: Is It Too Hard to Play? 10 RUTGERS COMPUTER & TECH. L. J. 127 (1983).
- Culver, Michael. An Examination of the July 1983 Letter From Harriet Martineau to United States Supreme Court Justice Story as it Pertains to United States Copyright Law, 32 J. COPYRIGHT SOC'Y. 38 (1984).
- de Freitas, Denis. Copyright and Freedom of Expression, 18 COPY-RIGHT BULL. 17 (1984).
- Decision of the United States Supreme Court on Home Video-Taping of Television Films, 58 AUSTL. L. J. 179 (1984).
- Dozortsev, Victor A. Copyright and Freedom of Self-Expression of the Individual, 18 COPYRIGHT BULL. 8 (1984).
- Dreier, Thomas K. Copyright and Film: The Infringement of Copyrighted Works by Motion Picture, 6 COMM. & L. 33 (1984).
- DuBoff, Leonard D. An Academic's Copyright: Publish and Perish, 32J. COPYRIGHT SOC'Y 17 (1984).
- Goldstein, Jorge A. Copyrightability of Genetic Works, BIO/ TECHNOLOGY 138 (1984).
- Johnson, D. Design Copyright: What About CAD? 224 ENGINEERING 20 (Jan. 1984).
- Mantle, R. A. Trade Secret and Copyright Protection of Computer Software, 4 COMPUTER L. J. 669 (1984).
- Miles, D. E. Copyrighting Computer Software After Apple vs. Franklin, 1 IEEE SOFTWARE 84 (April 1984).
- Patent and Copyright Indemnification Clauses: Read Them Carefully, 3 SCOTT REP. 8 (May 1981).

- Rodau, Andrew G. Protecting Computer Software: <u>After Apple Computer, Inc. v. Franklin Computer Corp.</u>, 714 F.2d 1240 (3d Cir. 1983), <u>Does Copyright Provide the Best Protection?</u> 57 TEMPLE L. Q. 527 (1984).
- Singer, Sydnee Robin. Satellite-Dish Antenna Technology: a Copyright Owner's Dilemma, 59 IND. L. J. 417 (1984).
- Software Rental Companies and Contributory Infringement of Software Copyrights, 3 SCOTT REP. 1 (March 1984).
- Spooner, M. Breaking the Law? (Software Copyright), 7 PERSONAL COMPUTER WORLD 232 (May 1984).
- The Stage of Publication as a "Fair Use" Factor: <u>Harper & Row, Publisher, Inc. v. Nation Enterprises</u>, 58 ST. JOHN'S L. REV. 597 (1984).
- Talab, R. S. Copyright, Fair Use, and the School Microcomputer Lab, 24 EDUC. TECH. 30 (Feb. 1984).
- Video Wars: The Betamax Decision, 11 WESTERN STATE U. L. REV. 261 (1984).
- Weil, B. H. Legal Issues Affecting the Information Communities: Copyright, Trade Restrictions, National Security Classification IN INFORMATION TRANSFER: INCENTIVES FOR INNOVATION (Proceedings of the 25th Annual Conference of the National Federation of Abstracting and Information Services). Philadelphia: Nat. Fed. Abstracting and Inf. Services, 1984.
- Weil, B. H. and B. F. Polansky. Copyright Basics and Consequences, 24 J. CHEMICAL INFORMATION AND COMPUTER SCI. 43 (May 1984).
- Wilson, Debra S. Software Rental, Piracy, and Copyright Protection, 5 COMPUTER L. J. 125 (Summer 1984).

COPYRIGHT — INTERNATIONAL

- Borking, J. J. Amendments to the Copyright Law Necessary for the Optimal Protection of Computer Programming, 26 INFORMATIE 225 (March 1984).
- Copyright Protection for Computer Software, 11 SYRACUSE J. INT'L. L. & COM. 87 (1984).
- Engel, Friedrich-William. Protection of Personal Rights in Scientific Discoveries, 15 IIC INT'L REV. OF INDUS. PROP. AND COPYRIGHT L. 302 (1984).

- Kelman, A. Videotex Copyright and Information Technology <u>IN</u> WORLD VIDEOTEX REP. (Proceedings of Videotex '83 and Videotex Europe). Middlesex, England: Online Pubs., 1984.
- Nycum, S. H. Copyright and Other Forms of Protection for Software <u>IN</u>
 DIGEST OF PAPERS COMPCON SPRING '84. Silver Spring, MD:
 IEEE Computer Society Press, 1984. P. 212-17.
- Stewart, Stephen M. INTERNATIONAL COPYRIGHT AND NEIGH-BORING RIGHTS. Butterworths, 1983.

<u>COPYRIGHT — BY COUNTRY</u>

- Berger, M. U.S. Fights Japanese Copyright Proposal, 57 ELECTRONICS 105 (8 March 1984).
- Braithwaite, William J. From Revolution to Constitution: Copyright, Compulsory Licenses and the Parodied Song, 18 U.B.C.L. REV. 35 (1984).
- Crowe, Carolyn. Disappearing Royalties: The Small User? Exemption of the Canadian Copyright Act, 77 CAN. PATENT REP. 177 (No. 2 1984).
- Dietz, Adolf. Letter From the Federal Republic of Germany, COPY-RIGHT 426 (November 1984).
- Goldstein, Richard. Copyright Relations Between the United States and the People's Republic of China: an Interim Report, 10 BROKLYN J. INT'L. L. 403 (1984).
- Hayhurst, William L. Copyright and the Copying Machine, 9 CAN. BUS. L. J. 129 (1984).
- McCouch, Grayson. The Public Lending Right in German Copyright Law, 15 IIC 605 (1984).
- McGregor, Sheila. Copyright-Design Overlap, 10 SYDNEY L. REV. 419 (1984).
- Neto, Hildebrando Pontes. The Brazilian Indian and Copyright, COPYRIGHT 414 (November 1984).
- O'Grady, C. The Australian Pirates Cause a Copyright Crisis, COM-PUTING 33 (23 Feb. 1984).
- Phillips, Jeremy. Video Piracy: First Year of F.A.C.T., J. BUS. L. 270 (May 1984).
- Ross, Ken. Copyright and VCR's: What's the Picture in Canada?... Confusing, 11 NAT. (C.B.A.) (No. 2, 18 1984).

- Shipley, G. Protection Through Copyright and Trade Secrets <u>IN</u> COM-PUTER SOFTWARE PACKAGES — ASSETS WORTH PROTECT-ING? London: Henry Stewart Conference Studies, 1984. 49 p.
- Stenlokk, E. and S. Selmer-Anderssen. On Copyright, Data Intrusion, Copying and Protection of Programs, 6 DATA TID 77 (May 1984).
- Szacinski, M. The Protection of the Copyright of the Works Utilized in Scientific Information, 29 AKTUAL. PROBS. INF. AND DOK. 3 (No. 2 1984).
- Taggart, Michael. Copyright in Written Reasons for Judgment, 10 SYDNEY L. REV. 319 (1984).
- Williamson, Andrew J. Copyright in Literacy and Dramatic Plots and Characters, 14 MELB. U. L. REV. 300 (1983).

TRADEMARKS — UNITED STATES

- Bramson, Robert S. Intellectual Property as Collateral Patents, Trade Secrets, Trademarks and Copyrights, 36 BUS. LAW. 1567 (1981).
- Brezina, David C. Numerals as Trademarks, 74 TRADEMARK REP. 324 (1984).
- Clark, Andrew E. The Trouble With T. Shirts: Merchandise Bootlegging in the Music Industry, 21 PUB. ADVERT. & ALLIED FIELDS L. Q. 323 (1983).
- Conway Fernald, A. and A. B. Davidson. First Look: TRADE-MARKSCAN Database, 8 ONLINE 36 (Sept. 1984).
- The Effects of Foreign Product Counterfeiting on U.S. Industry, 82 PAT. & TRADEMARK REV. 518 (1984).
- Geren, Gerald S. Trademarks: Problems in Enforcement and Abandonment, 26 RESEARCH & DEV. 31 (1984).
- Hamburg, C. Bruce. U.S. Patent and Trademark Law Developments: New Case and Statutory Law Designed to Take a Hard Line on Trademark Counterfeiting, 82 PAT. & TRADEMARK REV. 466 (1984).
- Krugman, Gary D. Tips From the TTAB: The Amended Trademark Rules of Practice and Their Effect on Ex Parte Appeals, 74 TRADE-MARK REP. 341 (1984).
- Lipner, Seth E. The Legality of Parallel Imports: Trademark, Antitrust, or Equity? 19 TEX INT'L. L. J. 553 (1984).

- Pattishall, Beverly W. Dawning Acceptance of the Dilution Rationale for Trademark - Trade Identity Protection, 74 TRADEMARK REP. 289 (1984).
- Sterne, R. G. and P. J. Saidman. Trademarking Software Packages, 9 BYTE 393 (1984).
- Wolf, Cyd B. Trademark Dilution: The Need for Reform, 74 TRADE-MARK REP. 311 (1984).

TRADEMARKS — INTERNATIONAL

World Intellectual Property Organization. INTERNATIONAL CLASSIFICATION OF GOODS AND SERVICES FOR THE PURPOSES OF THE REGISTRATION OF MARKS... 4th Ed. Geneva: WIPO, 1984. 202 p.

TRADEMARKS — BY COUNTRY

- Cohen, Jonathan C. Notes From Canada: The Imperial Case, 74 TRADEMARK REP. 347 (1984).
- Dejun, Cheng and Morris Liss. Summary of Current Trademark Law and Practice in the People's Republic of China, 82 PAT. & TRADE-MARK REV. 505 (1984).
- LE DROIT DES MARQUES DANS LES PAYS SOCIALISTES D'EUROPE DE L'EST: OUVRAGE COLLECTIF SOUS LA DIR. MARIE-ANGÈLE PEROT-MOREL. Grenoble: Université des Sciences Sociales, 1984. 369 p.
- Schaming, Bernard. The Protection of Trademark Right, PERIODICAL INFORMATION BULL. (June 1984).
- Mettke, Thomas. Lebensmittelrecht und Markenschutz, 46 MAR-KENARTIKEL 333 (No. 6 1984).

TRADE SECRETS — UNITED STATES

- Bramson, Robert S. Intellectual Property as Collateral Patents, Trade Secrets, Trademarks and Copyrights, 36 BUS. LAW. 1567 (1981).
- Brown, Frederick and Joann Swanson. Maintaining the Competitive Edge Lawful Protection of Trade Secrets, 10 EMPLOYEE RELATIONS L. J. 374 (1984-85).
- Coggio, Brian D. Strategies in Trade Secret Misappropriation Litigation Involving Genetic Engineering Technology, 3 BATTELLE MEMO-RIAL INST. GENETIC ENGINEERING CONF. 57 (1981).

- Greene, Richard. The Academic Solution; Professors Come Cheaper Than Lawyers, So Why Don't More Companies Use Arbitration to Settle Trade Secret Disputes? 134 FORBES 262 (19 Nov. 1984).
- Ishimaru, M. Profitability Protecting Programming: Patents, Trade Secrets, and Licensing Software IN DIGEST OF PAPERS COMPCON SPRING '84. Silver Spring, MD.: IEEE Computer Society Press, 1984. p. 218-23.
- Mantle, R. A. Trade Secret and Copyright Protection of Computer Software, 4 COMPUTER L. J. 669 (1984).
- Misrock, S. Leslie. Utilization of Patent and Trade Secret Protection in Genetic Engineering Developments, 4 BATTELLE MEMORIAL INST. GENETIC ENGINEERING CONF. 33 (1981).
- Youmatz, Vincent W. Ruckelshaus v. Monsanto, 25 IDEA 121 (1984).

<u>TRADE SECRETS — INTERNATIONAL</u>

Wasserman, Ursula. OECD: Recommendations on Chemical Substances, 18 J. WORLD TRADE L. 261 (1984).

TRADE SECRETS — BY COUNTRY

- Jefferson, Michael. Confidential Information and the Duty of Fidelity, 13 INDUS. L. J. 115 (June 1984).
- Muller, M. and J. Woltz. Schutz Gegen Sklavische Nachahmung Nach BRD-Recht, 33 DER NEUERER 74 (No. 5/6/B 1984).
- Shipley, G. Protection Through Copyright and Trade Secrets <u>IN</u> COM-PUTER SOFTWARE PACKAGES: ASSETS WORTH PROTECT-ING? London: Henry Stewart Conference Studies, 1984. 49 p.

LAW, SCIENCE AND TECHNOLOGY — UNITED STATES

- Bronstein, D. INTERACTION AND CONFLICTS BETWEEN LAW AND GOVERNMENT AND SCIENCE AND TECHNOLOGY. East Lansing, Michigan: Michigan State U., Resource Dev't. (1984?).
- Korwek, Edward L. Agency Regulation of Recombinant DNA Technology A Few Legal Considerations, 2 BATTELLE MEMORIAL INST. GENETIC ENGINEERING CONF. 81 (1981).
- O'Brien, David M. Madbury, the APA, and Science-Policy Disputes: The Alluring and Elusive Judicial/Administrative Partnership, 7 HARVARD J. L. & PUB. POL'Y. 443 (1984).

48 IDEA - The Journal of Law and Technology

- Thomas, William A. Symposium on Science and the Rules of Legal Procedure, 101 F.R.D. 599 (August 1984).
- Villa, Vittorio. Legal Science Between Natural and Human Sciences, 4 LEGAL STUDIES 243 (1984).

LAW, SCIENCE AND TECHNOLOGY — INTERNATIONAL

- Reiley, Eldon H. Introduction to a Tempest: the Legal, Technological and Political Dimensions of the 1984 Law of the Sea Conference, 18 U.S.F.L. REV. 415 (1984).
- Schmidt-Szalewski, Joanna. La Négociation des Contrats de Transfert de Techniques avec L'Union Soviétique, 10 DROIT ET PRATIQUE DU COMMERCE INTERNATIONAL 187 (No. 2 1984).
- Seabolt, D. Grant. United States Technology Exports to the People's Republic of China: Current Developments in Law and Policy, 19 TEXAS INT'L. L. J. 577 (1984).
- Strunk, Paul R. Transfer of Technical Know-How in Pipeline Construction Projects, INT'L. BUS. LAW 307 (July-Aug. 1984).

COMMENTARY

A Document Retention Program for Patent Attorneys

In many attorneys' offices, little more is thrown away than paper cups and junk mail. In other offices, there is great concern when it is discovered that an important document has long since cycled through the waste basket. However, falling somewhere between the two extremes are a few law offices that have a rational, consistently applied plan for the disposal of records.

One might ask, why throw away anything? There are several good reasons.

First, there is the direct cost of keeping records. Floor space is short for most lawyers, and filing cabinets are frightfully expensive. Computer and microfilm storage require little space, but involve large capital investments and operating expenses. By eliminating unneeded records, you will have more room in your office and fewer expenses related to record storage.

Second, suppose you are served with a broad document request or subpoena that would require you to search through and study all, or a significant portion, of your firm's or your company's records. Weeks or even months of time could be lost looking at obsolete documents that could have been discarded long ago.

Third, we have to set our egos aside and realize that what we did in the distant past may not really be so useful after all. Just think of your own experience. When was the last time you used a 10, 20, or 30-year-old file wrapper or litigation file? Was it really useful? Could the information have been independently collected today? If you are like most people, you seldom, if ever, refer to files which have been inactive for more than a few years.

Further, there may be many papers that record perfectly innocent comments, but when read out of context, could be misinterpreted by a judge or jury. Suppose your client misinterpreted the law, and wrote, "We're not patentable over this," on a reference which has been kept in your file of an issued patent. Suppose further, that the reference was not cited to the Patent Office because you decided it was not relevant. If found in discovery, the results could be catastrophic. Of course, a properly drafted memo to the client would also alleviate the problem, but in the real world of time pressures, such memos are seldom written.

You may be depending on the work product doctrine and attorneyclient privilege to prevent discovery of certain documents. However, courts have recently been unpredictable in their decisions in this area. Some judges will allow discovery of almost anything. Are you willing to play the odds?

A simple answer to these problems is to dispose of files or specific parts of files after they are past their useful life. The determination of the useful life of various papers, however, can be a difficult problem. It is my hope to provide some guidelines and specific suggestions. The list in Table I is not meant to be exhaustive, but rather is intended to be a starting point for designing your own document retention program. In the list, different suggestions are made for corporate versus private patent practice, due to the differences inherent in such work. A private patent attorney must always be concerned about malpractice suits and will not want to destroy records that could be useful to defend such charges. Corporate patent attorneys generally are more interested in preserving the company's technology and maintaining art collections. Thus, the time limitations for corporate departments is designed with technology preservation in mind, and that for firms is designed with malpractice liability in mind.

Looking at specifics, agreements can be disposed of six years after all obligations have been performed or have terminated. After that period, the likelihood of litigation is minimal. If there is an agreement you want to keep as an example, simply opaque all names, dates, and other identifiers; make a photocopy, and destroy the original

Correspondence is tricky for firms because of the malpractice problem. Letters to and from the client may be used to show you acted either properly or improperly. On the whole, it is probably better for private patent attorneys to keep correspondence for at least three years, and preferably six years, to evidence the advice given to the client. In corporations, the negative aspects of correspondence are more important. Problems of bulk, discovery burdens, "innocent" statements, etc., weigh in favor of discarding letters after a relatively short period of time.

Disclosures of inventions and patent application files are an important record of technology for corporations, but not for law firms. Thus, the suggestion of longer retention times for corporations. A similar problem is presented by pre-filing patentability search results. They are expensive and, in corporations, can serve as the basis for later searches since corporations tend to do a lot of work in comparatively narrow areas. However, it is increasingly common for de-

fendants in patent suits to seek discovery of the patentee's search report, and then allege fraud in the procurement of the patent. Even if completely unfounded, it can require a great deal of time and money to rebut such an allegation. This is a close question, but I favor discard of the search at issuance of the patent to avoid having someone second guess your disclosure of art to the Patent Office.

What about those special projects which aren't opinions or applications, but may warrant preservation longer than ordinary correspondence? One answer is a "job folder." A job folder can be indexed for easy retrieval (useful even without a document retention program) but more importantly, it is a separate, identifiable file with a limited life. Typically, a job folder will be tickled after a certain initial time period (e.g., three to six years), and if not then destroyed, retickled annually. This system is useful for things like special correspondence which has a particular reason for being exempted from the retention program. For example, correspondence regarding an infringement charge should be saved until all statutes of limitation have passed.

There may be situations in which you must suspend the destruction of some documents. It is clear that one having knowledge of proceedings cannot selectively destroy relevant documents if there is a subpoena requesting the documents, an ongoing judicial or administrative proceeding, or even a governmental investigation which has not yet reached a formal stage. Even routine destruction under a record retention program must be suspended if a court has ordered that the program be suspended or if a request for documents has been received. In this regard, since document retention programs have become very popular, it may be wise, whenever you are involved in litigation, to request an order that the other party suspend their destruction of relevant documents.

For an excellent, but lengthy (60 pages including 3'08 footnotes) article on the legality of having a document retention program, see John M. Fedders and Lauryn H. Guttenplan, *Document Retention and Destruction: Practical, Legal and Ethical Considerations*, The Notre Dame Lawyer, 56:5, pp. 5-64 (1980 October).

If, because of an investigation, litigation, or other similar reason, you suspend the disposal of relevant documents, the records which would otherwise be scheduled for disposal should be put into a special area and clearly marked to be put back on the retention schedule at the conclusion of the event which prompted the suspension.

After setting up your document retention program, suggest that your clients do the same. The advantages of a retention program are

52

somewhat diluted if copies of the documents you have destroyed are retained by your clients.

Remember, your document retention program is only as good as you make it. It must be based on categories or types of records, regardless of content, or it will look more as if you have a selective disposal program designed to cover up your mistakes.

Some final comments. Remember that there are frequently multiple sources of records and that they often are not only on paper. You may also have microfilm, carbon ribbons, magnetic tape cards or disks, punched tape, and similar media. Be sure all of these are disposed of on time. Also, if your waste is not taken via a secure route to be incinerated, use a paper shredder. A few extra minutes using the shredder can ensure against a major loss of technology.

Jeffrey S. Boone, J.D. ©1985, Jeffrey S. Boone

| TYPE OF RECORD | TABLE I | PERIOD OF RETENTION |
|---|---------|--|
| Activity, time, travel, and expense reports | | Corp.: 1 year Firm: 1 year from payment or when considered uncollectable (be sure sufficient records are kept for tax purposes) |
| Agreements, general | | 6 years from termination of all obligations |
| Agreements, patent assignments | | keep with application file |
| Calendars and diaries | | Corp.: 2 years Firm: 6 years |
| Correspondence, agreements | | Corp.: at signing of agreement, discard all correspondence except that having special significance regarding interpretation of the agreement Firm: same, except save client correspondence until agreement is discarded (?) |
| Correspondence, general | | Corp.: 3 years Firm: 6 years |
| | | |

| TYPE OF RECORD | PERIOD OF RETENTION |
|--|---|
| Disclosures of inventions, not filed as patent applications | Corp.: 25 years Firm: 6 years from last contact with client on this invention |
| Employee secrecy and patent assignment agreement | 75 years |
| Employee termination letters with reminder of employee agreement obligations | file with employee agreement |
| Interference files | keep with application file |
| Job folders | Corp.: 3 years, if need to keep, have 1 year tickles Firm: same but 6 year initial period |
| Litigation files, patent infringement | 10 years, or 6 years from expiration of patent, whichever is later |
| Opinions, patentability | if a patent application is not filed, keep with disclosure of invention; if an application is filed, treat as client correspondence in the application file |

| TYPE OF RECORD | PERIOD OF RETENTION |
|--|---|
| Opinions, validity and infringement | 6 years after subject patent expires |
| Patent application files Patent original | (A) Stage One Corp.: at issuance or abandonment, remove everything that is not in the PTO file wrapper except the disclosure of the invention and any data used to write the application Firm: same, except retain client correspondence (?) (B) Stage Two Corp.: destroy files of issued application 6 years from date of issue; destroy files of abandoned application 20 years from abandonment, whichever is later Firm: same except destroy files of abandonment, whichever is later Firm: same except destroy files of abandonment Corp.: keep with applications 6 years |
| the contract of the contract o | Firm: give to client |

| TYPE OF RECORD | PERIOD OF RETENTION |
|-----------------------|--|
| Patent search results | Corp.: if no patent application is filed |
| | keep with invention disclosure; |
| | if an application is filed, destroy |
| | at issuance (?) |
| | Firm: 6 years |
| Unsolicited ideas | Corp.: 10 years |
| | |

BRIEF SURVEY OF AND PROPOSAL FOR BETTER RECONCILIATION OF THE OPTIONS IN PATENT, TRADEMARK, COPYRIGHT AND RELATED LAW*

THOMAS G. FIELD, JR.**

I. INTRODUCTION

A great deal has happened in the ten years since I last attempted a brief overview of this area of law. Now, as then, not much depth is possible, but the volume of more-or-less related material makes a brief overview all the more useful.

Although more law schools now offer at least a survey course, few students elect it.² Consequently, few lawyers aside from specialists know much about it. Moreover, unlike most areas of specialization, such as tax, labor, and antitrust law, the basic principles of which are known to most practitioners, if a generalist knows anything, it is apt

^{*}Permission is granted to teachers to reproduce this article for student distribution.

^{**}Professor of Law and Director of the Innovation Clinic, Franklin Pierce Law Center.

A.B. (Chem.) and J.D., W.V.U.; LL.M (Trade Regulation) N.Y.U. Professor Field is a former Patent Examiner.

¹ Intellectual and Industrial Property in a Nutshell, 77 W.V. L. REV. 525 (1975), reprinted in 14 PUB. ENT. ADV. L. Q. 301 (1976). In several instances this article incorporates text from that one.

In writing this, I am very much aware of and grateful for the contributions of others. First are the students who may have helped me more than I have helped them understand this area. Second are Paul Goldstein, Edmund Kitch, and Harvey Perlman, whose casebooks I have found educational. Finally, I am grateful to the Law Center and to my colleagues for creating an environment in which one who is interested in such subject matter can thrive.

² See A.A.L.S., DIRECTOR OF LAW TEACHERS 1984-85, 894-5 (West).

to be wrong.³ Furthermore, because clients tend to approach generalists first, substantial and incurable injury may result from a generalist's mistaken notions of the law. Avoiding such injury is one of the objectives of this article.

Most of the mystique surrounding this area of law is wholly unjustified. While the acquisition of some of the legal interests encompassed within it is more complicated than other acquisitions, by and large these interests can be protected and transferred in much the same manner as others. To the extent that any given interest is recognized by the law and is alienable, it seems proper to call it "property." For that reason, "intellectual property" will be used as a generic term to encompass all of the interests which are to some extent alienable. Not all of them are, and interests which do not seem to fit that condition can be briefly discussed and disposed of. The remainder of the article will focus on that which can more properly be called "intellectual" and/or "industrial" property.

Taking up trademarks, patents, copyrights, and trade secrets (in that order), it will attempt to summarize briefly the ways in which such rights arise, are perfected and enforced. It will also discuss a hypothetical in which all of those options will be discussed in a comparative way. Finally, it will suggest that basic improvements in the area could be realized by dispensing with the often confusing and arbitrary subject matter distinctions which characterize the various subparts of the present intellectual property system.

³ See, e.g., P. GOLDSTEIN, PREFACE TO COPYRIGHT, PATENT, TRADEMARK AND RELATED STATE DOCTRINES (1973). This is not surprising. While it is generally recognized that intangible rights manifested by, e.g., stocks and bonds comprise the bulk of wealth in this country, it does not seem to be widely appreciated that the know-how and reputation behind ownership rights in companies are at least as much a component of their worth as realty or tangible personalty. Consider, e.g., the situation presented by automobile, chemical or electronics industries.

⁴ J. CRIBBET, PRINCIPLES OF THE LAW OF PROPERTY 4 (1962). There, Dean Cribbet observes in part: "Thus analyzed, it will be seen that property can exist in relation to an infinite number of things. ... It is just as true, but less obvious, that... patents, trademarks, copyrights, and even good will can be brought within the ken of property." But cf. Mr. Justice Holmes' comment in E.I. duPont de Nemours Powder Co. v. Masland, 244 U.S. 100, 102 (1917): "The word 'property' as applied to trade-marks 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."

II. "UNFAIR COMPETITION"

The words, "unfair competition," have widely varying meanings. In the broadest sense, "unfair competition" can encompass what is usually called antitrust law. Except as antitrust may limit some of the legal interests to be discussed, it is beyond the scope of this article. In the narrowest sense, the words refer to the common law which prevents one business from palming off its goods or services as those of another. Insofar as that law is closely related to trademark law, it will be treated below.

Between the two extremes is a body of private law which is coming to be called "unfair business practices" or "unfair trade practices." That law (with some success) prevents commercial misrepresentations of price, quality, or quantity which injure competitors of the offending party.

Unfair trade practice law is strange indeed. First, there is a peculiar split between federal and state causes of action. On the one hand, if a firm misrepresents its own goods or services, a competitor may bring an action under §43(a) of the Lanham Act¹⁰ (which is the name of the federal trademark statute). On the other, if a firm misrepresents the goods or services of another, the one who is injured may be left to actions under state law.¹¹

⁵ See, e.g., §5(a)(1) of the Federal Trade Commission Act, 15 U.S.C. §45(a)(1) (1984), which makes "unfair methods of competition... unlawful." For a discussion of the relationships between this and the antitrust law, see, e.g., Field, Appraising Private and Public Roles in Returning Small Economic Losses to Consumers..., 29 MERCER L. REV. 773, 780-82 (1978).

⁶ See, e.g., Developments in the Law: Trademarks and Unfair Competition, 68 HARV. L. REV. 814 (1955). See also 1 MC CARTHY, TRADEMARKS AND UNFAIR COMPETITION 19 (2d ed. 1984).

⁷ Part III, infra.

See, e.g., Germain, Unfair Trade Practices Under Section 43(a) of the Lanham Act..., 64 TMK. REP. 193 (1974). However, McManus, in THE LAW OF UNFAIR TRADE PRACTICES IN A NUTSHELL (1983), uses the term to encompass everything covered in this article — and more!

⁹ However, both consumers and public entities may be able to bring actions. See Field, note 5, supra.

^{10 15} U.S.C. §1125(a) (1984). At common law, no such action was possible; Ely-Norris Safe Co. v. Mosler Safe Co., 7 F.2d 603 (2d Cir. 1925), rev'd Mosler Safe Co. v. Ely-Norris Safe Co., 273 U.S. 132 (1927) — Learned Hand wrote the former; Holmes, the latter.

See, e.g., Bernard Food Ind. v. Dietene Co., 415 F.2d 1279 (7th Cir. 1969), cert. denied, 397 U.S. 912 (1970). However, if both kinds of misrepresentations are made, an action under 43(a) will lie even in the 7th circuit; id., at 1284.

60

Second, even more peculiar than the jurisdictional split is the situation with regard to remedies. Under the Lanham Act, the plaintiff need not show actual damage in order to obtain an injunction.¹² This is good because actual damage is, more often than not, impossible to show.¹³ Under state law, apparently because of deference to "free speech," injunctions are difficult (to impossible) to obtain. Even if one whose business, product, or service is libeled or disparaged can show actual damage, an injunction may not be available. In the absence of such a showing, an injunction is even less likely.¹⁴

Finally, while a few states have adopted the Uniform Deceptive Trade Practices Act which goes far toward improving the remedies situation, most have not.¹⁵ Yet the overwhelming bulk of states have adopted a version of the Uniform Trade Practices and Consumer Protection Law which permits consumers to address the same conduct with injunctions, minimum statutory damages, costs, and attorneys' fees!¹⁶

Needless to say, this area of the law is overripe for reform. While problems exist in the law yet to be discussed, few rise to anything approaching the same level of severity.

III. TRADEMARKS

A. The Importance of Source Indicators 17

People with new ideas having potential commercial value usually think only of protecting the *idea*. However, if they are in business or are planning to go into business, legal means for protecting commercial *reputations* need close attention irrespective of the nature or novelty of their goods or services. Moreover, trademark and closely

See, e.g., Johnson & Johnson v. Carter-Wallace, 631 F.2d 186 (2d Cir. 1980).

¹³ Id.; also Mosler Safe, note 10, supra.

¹⁴ See generally, e.g., Graf, Disparaging the Product - Are the Remedies Reliable?, 9 DUQ. L. REV. 163 (1970). Although the speaker was not a competitor, Bose Corp. v. Consumers Union, 104 S.Ct. 1949 (1984) is also of some interest on the issue of damages.

² MC CARTHY, note 6, supra, at 377, indicates that about 12 states have adopted this act which permits an injunction on the likelihood of damage (§3).

See 26 SUGGESTED ST. LEGN. 141 (1970). Alternative form no. 3 of §2 explicitly makes, e.g., disparagement unlawful. Section 8(a) provides for consumer actions (subject to suffering an "ascertainable loss"). An FTC "Fact Sheet" issued in July 1977 provides details on which jurisdiction has done what. It states that 42 jurisdictions permit consumer actions.

¹⁷ The first two sections of this part are adapted from "What's in a Name?" (1984), a pamphlet distributed by the Franklin Pierce Innovation Clinic.

related law may furnish attractive rights supplemental to, for example, patents. In many instances such protection, alone, may be adequate — and, indeed, may be all that is available.¹⁸

By having the right to exclude competitors from using any symbol used by one firm to distinguish its products or services from those of competitors, that firm can ensure that competitors cannot palm off their goods and services as originating with it. Thus, unless the firm has a substantial investment, e.g., in original research and development (assuming it has basic marketing skills and provides fair value for consumer dollars), giving purchasers the option of fairly choosing it over competitors will afford all the protection needed.

In protecting commercial reputations, trademark and related law enables consumers to seek out, or to avoid, particular commercial sources. For that reason, marks often become companies' most valuable assets — ones which instead of expiring or wearing out, usually become more valuable with time. Businesses cannot afford not to make the most of them.

B. The First Step - Choosing a Name

As much care should be given to choice of mark as to choice of location, the hiring of key personnel, or any other major business decision. There are weak trademarks and strong ones.¹⁹ Of course, a firm will want the strongest one it can think of.²⁰

One way to avoid time, trouble, and expense (for reasons to be discussed below) is to avoid marks which consist of the firm's name or location. Of course, there are many famous examples (such as Ford) where this was not done, but strong commercial rights in such names are not easily obtained. For that reason it is best to look elsewhere for inspiration.²¹

Another rule is to avoid descriptive names. At one extreme, socalled generic names such as "hamburger," "car," or "TV Repair" are totally descriptive and useless as trademarks. (It is worth mentioning, too, that misspellings such as "Krystal Kleer Kleener" afford no material advantage over properly spelled words.) At the other extreme,

Subject matter and other restrictions on what can be protected by patents, copyrights, and trade secrets will be discussed in parts IV, V, and IV, respectively.

¹⁹ In general, the more unique a mark, the stronger it is. If a mark is strong enough, others may be prevented from using it even though no source confusion is likely. See, e.g., 2 MC CARTHY, note 6, supra, at 224.

²⁰ See generally 1 MC CARTHY, note 6, supra, at 503.

²¹ One is presumed to be able to use his/her own surname. Thus, another will have difficulty preempting its use by showing secondary meaning; *id.*, at 578.

purely arbitrary or fanciful terms such as "Whammo," "Big Mac," or "Fiesta" make the strongest trademarks because they are nondescriptive. Between the two extremes, terms which merely *suggest* (without being overly descriptive) a favorable aspect of a product can be quite good. Marks such as "Rabbit," "Whopper" and "Ultra-Bright" are well-known examples.²²

In a related vein, if truly new products or services are involved, a firm would do well to choose two names — a generic one as a common name for the product or service; the other to use as a trade or service mark. The law gives purchasers the right to ask for a product or service by its common (or "generic") name — regardless of who provides it.²³ Conversely, it gives businesses the right to sell goods and services by their common descriptive names — except, perhaps, for the 17 years someone else might have a patent.²⁴ There are many instances where this was not attended to, and considerable money was invested in promoting a "trademark" which was found to have started out as or to have become a common descriptive name. "Yo-yo" is a good example of the former. As for the latter, at one time "aspirin" was Bayer's trademark, but in the U.S. it became descriptive because Americans refused to use the more difficult chemical name for the product.²⁵

So, if a firm has invented a gizmo and markets it as the "XYZ" brand gizmo, it can be reasonably confident of keeping a share of the market when, sooner or later, others begin to compete.

The final rule is to avoid *mis*descriptive names. Consider the name "Two Hour" for a TV repair business. On the one hand, if it accurately *describes* the typical repair time, it is a poor choice as discussed above. On the other, if it leads consumers *unwisely* to expect promptness, it is even worse. Not only would it be a terrible choice from the standpoint of trademark law, but it would also cause very unfavorable customer reactions.²⁶

²² Id., at 433.

²³ Id., at 547.

²⁴ See, e.g., Kellogg Co. v. National Biscuit Co., 305 U.S. 111 (1938). In that case, Kellogg was permitted the right not only to call the product "shredded wheat," but also to make the product in the well-known pillow shape.

²⁵ See generally 1 MC CARTHY, note 6, supra, at 533.

²⁶ See 15 U.S.C. §1052(e) (1984). See also Jacob Siegal Co. v. FTC, 327 U.S. 608 (1946). Finally, one should consider potential product liability implications; see, e.g., Maize v. Atlantic Refining Co., 352 Pa. 51, 41 A.2d 850 (1945).

C. Keeping Your Options Open

When a firm has arrived at a good name, there are other matters which need attention. The first is essential, but the second is optional. An example will be helpful in explaining them both.

Imagine two businesses starting at about the same time, making the same or similar products. Assume, further, that they choose the same or similar marks, but because they are in different and distant parts of the country, the similarity in names causes no problems — at least initially.

However, unless one business fails or both stagnate, trouble is inevitable. If, eventually, some common group of consumers has to choose between them, neither trademark will have any value. Trademark law will prevent that from happening in one of two ways: (1) One of the companies will find itself having to stop using "its" name in all or most of the country; or (2) Each will be prevented from expanding under established trademarks.

Such problems can be avoided. The first step (the essential one) is to get a trademark search.²⁷ For probably less than the cost of a typical real estate title check on an average home, one can learn whether a mark is currently in use. This can prevent one firm's adopting a name which already belongs to someone else. A search could have been used by one of the two firms in the example to avoid problems if they had not started at about the same time.

Also, either of them, in such an unlikely situation, could have taken advantage of state or federal trademark registers to protect as much potential market as possible. While registration by one would not divest the other of already established markets, it could prevent expansion into new markets. Thus, there is good reason, if one decides to register at all, to do it as soon as possible.²⁸

D. Trademark Registers

1. Kinds of Registers and Marks

As noted above, trademark protection is found not only in state and federal statutes but also in the state common law. For purposes of

Even a company name should be searched more widely than a single state register. See, e.g., 1 MC CARTHY, note 6, supra, at 308. See also, e.g., Lawyers Title Ins. Co. v. Lawyers Title Ins. Corp. 109 F.2d 35 (D.C. Cir. 1940), cert. denied, 309 U.S. 694 (1940). Firms exist which search not only various registers but also trade directories — and even telephone books for quite nominal fees, e.g., Compu-Mark in New York or Thomson & Thomson in Boston.

An interesting case involving a conflict between an earlier state registration and a later, but more thoroughly exploited, federal registration is: Burger King of Fla. v. Hoots, 403 F.2d 904 (7th Cir. 1968).

this section however, it is convenient to focus on the federal law since it is most carefully codified.²⁹

Under the federal statute, there are two basic registers of marks: the principal register and the supplemental register.³⁰ The reason for the supplemental register is that common law rights of trademark protection do not exist in many foreign nations, and, in those countries, trademarks of United States citizens may be registered under reciprocity treaties only if they could be registered in the United States. It was early realized that many businesses have considerable proprietary rights which, although enforceable at common law, are unregisterable under the technical requirements of the trademark law. Moreover, because foreign protection for such rights was unavailable in the absence of domestic trademark registrability, the supplemental register was provided.³¹ The supplemental register is similar to, but in material respects inferior to, the principal register.³² Having noted its existence and the basic reason therefor, however, it will not be further discussed.

Marks³³ are broken down under federal statute into the following categories:³⁴ (a) trademarks; (b) service marks; (c) collective marks; and (d) certification marks. An example or two or each should separate their boundaries enough to focus only on trademarks hereafter. They are, respectively: (a) "Bandaid" or "Kool-Aid"; (b) "H & R Block" or "The Educational Testing Service"; (c) "The Dairymen's Association"; and (d) "Underwriter's Laboratories" or "The Good Housekeeping Seal of Approval."

2. Obtaining Federal Registration

As mentioned above, trademarks do not depend on any act of origination. Rights are acquired in a way similar to that of obtaining title in wild animals. The first to use gets superior rights.

Unfortunately, because of the confusion caused, federal registration of trademarks, for many years, took place in the United States Patent

²⁹ In this part, all section citations will be to Title 15 of the U.S. Code (1984).

^{30 1} MC CARTHY, note 6, supra, at 883.

³¹ Id., at 886. See §§1091-1096.

³² Section 1094 lists a number of provisions not applicable to the supplemental register.

³³ Section 1127 defines the terms in somewhat unclear fashion. "Trademark" is defined as "any word, name, symbol or device." See, e.g., In re Leblanc, 429 F.2d 989 (C.C.P.A. 1970). See also In re DC Comics, 689 F.2d 1042 (C.C.P.A. 1982).

³⁴ Sections 1052-54.

Office, now Patent and Trademark Office [hereinafter, PTO].³⁵ Although patents have yet to be discussed, it is useful to contrast the process for obtaining them with that for registering trademarks:³⁶

Every right a patentee has is given to him by the Patent Office. On the other hand, the acquisition of the right to exclude others from the use of a trademark results from the fact of use and the common law, independently of registration in the Patent Office. The happenstance [by Congressional fiat] that trademarks are registered in the Patent Office should not result in confusing the principles involved in dissimilar proceedings with respect to wholly dissimilar rights. It is in the public interest to maintain registrations of technically good trademarks on the register so long as they are still in use. The register then reflects commercial reality... trademark rights, unlike patent rights, continue notwithstanding cancellation of those additional rights which the Patent Office is empowered by statute to grant. [Emphasis in original.]

Nevertheless, there are several hurdles to be overcome in obtaining registration on the principal federal register. First, federal registration is based on the use³⁷ of the mark to distinguish goods in interstate commerce.³⁸ Second, echoing the general requirements mentioned above, the technical requirements of registration are that the mark sought to be registered (1) is not confusingly similar to another mark used for similar goods; (2) is not either descriptive of the goods or misdescriptive (e.g., the mark, "Idaho Potatoes" would be either descriptive or misdescriptive for potatoes, depending on where they came from); (3) is not deceptive; (4) does not consist of a person's surname; and (5) variations on the above, overlapping themes.³⁹ Some of

³⁵ P.L. 93-596 (1975).

Morehouse Mfg. v. Strickland, 407 F.2d 881, 888 (C.C.P.A. 1969).

³⁷ Id. It bears emphasis that no rights arise from merely creating a unique mark, although such a mark, when used, will be presumed to have secondary meaning. See e.g., note 19, supra.

However, trademark attorneys often skirt this requirement by token use. Thus, use is more of a bother than a real requirement. But see Manhattan Industries v. Sweater Bee By Banff, Ltd., 627 F.2d 628 (2d Cir. 1980).

³⁸ Federal trademark legislation is based on the commerce clause; see, e.g., Trademark Cases, 100 U.S. 82 (1879).

Moreover, "in commerce" (e.g., \$1051) has been strictly construed by the PTO. See, e.g., In re Taylor, 133 U.S.P.Q. 490, 491 (P.O. Tmk. Trial & App. Bd. 1962). This, too, can be skirted by token use. Also, courts may be inclined to construe "in commerce" more liberally; see, e.g., Hoots, note 28, supra, finding that a federal registration can prevent an earlier state registrant from expanding outside of the area of actual use.

³⁹ Section 1052.

66

these restrictions can be waived, however, if the applicant has a long record of exclusive use.⁴⁰

Assuming that an applicant can meet the technical requirements for registration of his/her mark, and assuming the applicant does not get into a contest with another applicant or a prior registrant,⁴¹ a certificate of registration that is "prima facie evidence of the validity of the registration,"⁴² is awarded. Registration is "constructive notice of the registrant's claim of ownership" for 20 years.⁴³

Registration can be renewed by appropriate means every 20 years as long as the mark is in use as originally registered.⁴⁴ Perhaps this should be contrasted with the situation which would be presented if the Xerox Company should decide to expand into the toothpaste market. They would have to file a new registration application for the mark "Xerox" as applied to toothpaste — not a renewal application.

E. Enforcement of Rights

Regardless of the source of trademark rights, infringement suits are brought in the courts. A trademark is infringed when a mark is applied to goods under circumstances in which another has a superior right to use the same or a similar mark on those or similar goods. For example, "Xerox" applied to antifreeze might very well be found to infringe "Zerex" antifreeze. All this is true even at common law.⁴⁵

The question, then, becomes: What does federal registration accomplish? Principal federal registration accomplishes three things not accomplished by state common or statutory law: (1) It gives the registrant the right to bring an action for infringement in federal court, regardless of the amount in controversy, the citizenship of the parties⁴⁶ or actual competition between them;⁴⁷ (2) It is constructive notice to everyone in the United States that the registrant is claiming the right to use the mark throughout the country;⁴⁸ and, (3) After five

⁴⁰ Section 1052(f) provides that five years of exclusive use is prima facie evidence of secondary meaning.

Sections 1063-64 and 1066. With regard to the latter, see, e.g., 1 MC CARTHY, note 6, supra, at 1087.

⁴² Section 1057(b).

⁴³ Section 1058, but see §1058(b).

⁴⁴ Section 1059.

⁴⁵ For a list of 12 factors (and a catchall) for determining likelihood of confusion, see E.I. duPont de Nemours & Co., 476 F.2d 1357 (C.C.P.A. 1973).

⁴⁶ Section 1121.

⁴⁷ Section 1115.

⁴⁸ Id.

years of use and federal registration, the registration becomes incontestable⁴⁹ and prima facie evidence of the registrant's exclusive right to use the mark.⁵⁰

As mentioned above, the implications of federal registration for a small business that may be using a mark in a limited (as yet) locality are serious, and every lawyer should be aware of them. Small business should be warned that nasty problems can arise from commencing use of a mark without first searching state and federal registers and other references to commercial names in use; large amounts of time and money may be spent to acquire a good reputation in a mark only to subsequently discover that another has superior rights.⁵¹

The remedies available for trademark infringement are (1) injunctive relief, (2) damages, (3) profits, (4) costs and attorneys' fees, and (5) destruction of infringing articles.⁵²

Defenses available in such a suit include (1) noninfringement, *i.e.*, no likelihood that people will be confused as to source;⁵³ (2) invalidity, *e.g.*, that the mark has become the common descriptive name of the goods or services in question;⁵⁴ (3) prior use, *i.e.*, that the alleged infringer's use predates the registration;⁵⁵ and (4) misuse, *e.g.*, that the registrant has unclean hands.⁵⁶

IV. PATENTS⁵⁷

The word "patent" is an abbreviated form of the term "letters patent" and most broadly represents an exclusive grant from a govern-

⁴⁹ Section 1065.

⁵⁰ Section 1115.

⁵¹ See notes 27, 28, and discussion, supra.

⁵² Sections 1116-18.

⁵³ Section 1114; see also note 45, supra.

⁵⁴ See, e.g., §1064(c). But see Park 'N Fly v. Dollar Park and Fly, 105 S.Ct. 658 (1985); see also Trademark Clarification Act of 1984, P.L. 98-620, 98 Stat. 3335 (1984), amending §1064(c).

⁵⁵ Section 1115(b)(6).

Section 1115(b)(7); also §1116: "injunctions according to the principles of equity." Moreover, the PTO has taken the position that certain kinds of improper conduct (unrelated to the mark per se) can seriously affect the validity of the registration. See Field, The Fourth Dimensions in Labeling..., 25 FOOD D. COS. L. J. 347 and 372 (1970).

⁵⁷ Within this part, all section citations are to Title 35 of the U.S. Code (1984).

mental body.⁵⁸ An early form of patent in the United States was a land grant patent to railroads conferring upon them the exclusive and unlimited right to certain tracts of land.⁵⁹ Unlike land grant patents which were unlimited in duration, the types of patents to be discussed here are strictly of limited duration.⁶⁰

The most widely accepted rationale for these grants is similar to the purpose of the old railroad land grants — to provide an incentive to invest in the research and development necessary to achieve measurable improvement in our standard of life.⁶¹ In return for that investment, a party successful in making an innovation acceptable under the standards of the patent laws is rewarded with the exclusive right to use, produce, sell, or perform the subject matter of the patent for the duration of the patent, even though someone else may have independently come up with the same innovation.⁶² A patentee is thus said to have a "legal monopoly."

A good review of the early history of and rationale for patents appears in Machlup, An Economic Review of the Patent System, Study No. 15 of the Senate Subcomm. on Patents, Trademarks and Copyrights of the Comm. on the Judiciary, 85th Cong., 2d Sess. (1958).

⁵⁹ See, e.g., Northern Pac. Ry. v. U.S., 356 U.S. 1 (1958). See also Kitch, The Nature and Function of the Patent System, 20 J.L. & ECON. 265 (1977), wherein he likens patent claims to mining claims.

⁶⁰ U.S. Const. art. I, §8 provides: "The Congress shall have power... to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." [Emphasis added.] For an analysis of the above provision see Marmorek, The Inventor's Common Law Rights Today, 50 J. PAT. OFF. SOC'Y 369, 376 (1968).

⁶¹ Notes 57 and 58, supra.

The right to exclude others is, of course, not the right to use oneself. This distinction is worth making both in the case of copyright and patent. One of the few cases where it is cogently applied is Belcher v. Tarbox, 486 F.2d 1087, 1088 (9th Cir. 1973).

Only in the case of trademark would a blanket restriction on the right to use necessarily implicate the validity of the underlying grant. Even there, exceptions were made for alcoholic beverage marks following prohibition! See 1 MC CARTHY, note 6, supra, at 776.

A "legal monopoly," whatever that is, should be distinguished from an "economic" monopoly:⁶³ A great many patents are so-called "paper" patents and are never put to commercial use. Although this distinction is widely ignored, it is one for the generalist to consider when confronted with a client who wishes a patent. The process of obtaining a patent may be quite lengthy and expensive, and, as will be discussed below, it probably will be difficult and expensive to enforce.⁶⁴ An independent inventor should therefore, carefully con-

As applied to other forms of intellectual property, the term, "legal monopoly," is even more problematic. As discussed above, e.g., at note 23, supra, a trademark covers nothing more than source designation. Also, as will be discussed below, neither copyright nor trade secret law prevent another party from independently creating the same subject matter. See, e.g., notes 133 and 150, infra. Indeed, while copyright prevents copying of a work, it does not prevent the use of any underlying ideas, etc.; see, e.g., note 138, supra.

Thus, an Innovation Clinic pamphlet entitled, "So You Have an Idea" (1983), counsels:

Legal protection for an invention is like a lock on a door. You wouldn't buy the most expensive lock available to protect something nobody wants. On the other hand, if you have property which is very valuable, you probably would obtain a very sturdy lock to protect it. Protection for your invention should be similarly weighed depending on whether, for example, there is a consumer demand and how strong that demand is.

Not enough inventors pay proper attention to such matters. A recent survey* showed that less than one in five inventors earn more than \$2,000.00 on their first patented invention. Because legal protection may cost that much or more, consumer demand or the market value of your product should be and remain one of your primary concerns. [Emphasis in original.]

*The Inventor, 18(3) IDEA 1 (1976).

Nevertheless, even if one chooses not to pursue a patent, s/he should have a search made to ensure that another hasn't patented the invention.

⁶³ See, e.g., HANDLER, BLAKE, PITOFSKYand GOLDSCHMID, PATENTS AND ANTITRUST, 2 (Supp. to their antitrust casebook, 1983). See also, e.g., U.S. Steel v. Fortner Enterprises, 429 U.S. 610, 621 (1977). Compare Lowin, Whether Patented or Unpatented, 23 IDEA 77 (1982).

sider the market potential of any invention before seeking a patent. 65 There are three basic kinds of patents. In descending order, based on the number granted, the types of patents are (1) utility, (2) design, and (3) plant. The utility patent is what is uniformly meant when the word "patent" is used without more, and will be so intended when "patent" is used without qualification in this article. All types allow the patentee to prevent others from making, using, or selling 66 the subject matter which is claimed in a patent for the duration of the grant. 67

A utility patent protects the inventor of a novel machine, industrial process, composition of matter, or article of manufacture.⁶⁸ Although the categories of inventions protected by utility patents overlap somewhat, and the outer limits of this patent protection have been the subject of considerable litigation,⁶⁹ relatively clear-cut examples

In the early part of this century, the Animal Trap Company of America sold a five cent mousetrap. For years, Chester M. Woolworth, the president of the company, had tried to improve it. In 1928, he introduced a better product costing 12 cents. However, the improved mousetrap was a disaster in the marketplace, apparently because, at the new price, it was no longer disposable.

Mr. Woolworth has failed to look carefully at the way the average family used a mousetrap. The mousetrap was normally purchased by the husband who set the trap at night after the children were in bed in order to avoid accidents. In the morning, the husband hurried off to work leaving the dead mouse in the trap. The housewife did not want a dead mouse around all day so she would pick up the trap and dispose of the mouse and the trap.

Unfortunately for Mr. Woolworth, the new trap looked too expensive to throw away. So, the wife was forced to remove the mouse and clean the trap. Obviously, the average housewife felt much happier with the old five cent trap which could be thrown away. While the husband might buy the improved trap, the wife did not want it to be used. Thus, sales of the improved mousetrap were very, very low. Venture Capital 12 (Management Institute, Boston College, 2d ed., 1973).

⁶⁵ Contrary to the popular myth, another Innovation Clinic pamphlet entitled, "Marketing Basics" (1983) relates:

Section 271. Indeed, "induced" and "contributory" infringement are covered; see, e.g., Dawson Chemical Co. v. Rohm and Haas Co., 448 U.S. 176 (1980). See also note 62, supra.

⁶⁷ The respective durations are 17, 14, and 17 years; §§154, 161, and 173. See also, e.g., §156 providing limited extension of utility patents to compensate for regulatory delay involved in premarket approval of drugs and related products [§156(f)].

⁶⁸ Section 101.

⁶⁹ E.g., Diamond v. Diehr, 450 U.S. 175 (1981).

of the above classes of utility patents suffice for purposes of this brief study. The examples are respectively: a motor, a process of tempering steel, nylon, and a toothbrush. In contrast with utility patents, design patents protect the appearance or shape rather than function, of articles of manufacture.⁷⁰ Articles that may be proper subject of design patents include soft drink bottles or chairs. The subject of plant patents⁷¹ has little to do with either of the foregoing; plant patent protection is limited to the reproduction and sale of certain novel, asexually propagated, plant species.⁷²

A. Acquiring the Patent

The focus of this section will be on utility patents. The procedure for acquiring all patents is similar, although the standards of eligibility for a patent may vary in material respect depending upon the type of patent sought. As mentioned above, four kinds of subject matter for utility patents are listed in the statute. Unless one can bring the subject matter of a proposed patent within one or more of the statutory categories, a patent will be properly denied.

However, an inventor should not be discouraged from consulting a patent attorney on that basis alone.⁷³ The law is in flux.⁷⁴ Moreover, a skilled patent attorney can often draft the claims so as to bring debatable subject matter clearly within the statutory categories.⁷⁵

Other than dicta in Pan-American Plant Co. v. Matsui, 433 F.Supp. 693 (N.D. Cal. 1977), no case has been found in which it is even *suggested* that infringement of a plant patent can occur without "cloning" material obtained directly or indirectly from the plant *discovered* by the patentee. The contrary appears in *Ex parte Weiss*, 159 U.S.P.Q. 122, at 124 (P.O. Bd. App. 1967) and is supported by other citations.

- Only attorneys who have passed a special examination (or equivalent) are permitted to prosecute patent applications before the P.T.O. This may be unique. See §§31-33. See also Arnesen v. Raymond Lee Organization, 333 F.Supp. 116 (C.D. Cal. 1971)
- ⁷⁴ Note 69, supra.

⁷⁰ Sections 171-73.

⁷¹ Sections 161-64.

Section 163. In fact, this seems to be more a form of "copyright" than "patent." See generally part VIII, infra. See also the Plant Variety Protection Act, 7 U.S.C. §§2321-2583 (1983), which falls within the jurisdiction of the Department of Agriculture.

For example, a naturally occurring substance as such cannot be patented, but an essentially pure form of it could be. Also, some of the subject matter cases seem to have had more to do with the correspondence between the scope of the invention and the claims than with subject matter per se; see O'Reilly v. Morse, 56 U.S. 62 (1854) — also, the discussion of that case in Appln. of Zoltan Tarczy-Hornoch, 397 F.2d 856 (C.C.P.A. 1968).

Assuming that a party is the original inventor of subject matter proper for a utility patent, he/she must file an application.⁷⁶ Only the inventor, heirs, or assignees can file;⁷⁷ the discoverer of a lost art cannot file.⁷⁸ A patent application consists of a description of the subject matter sought to be patented (called a "specification"), with or without drawings, a fee, and an oath or declaration that the applicant is the first and the true inventor.⁷⁹

The statute requires the applicant to describe the invention in terms that will enable those skilled "in the art" to practice it after the patent has expired. Moreover, the specification must conclude with one or more "claims" (statements that define the invention with particularity). It is customary to speak of the specification as a general description, not only of the invention, but also of the prior art. Thus, the function of "the claims" is to distinguish that part of the specification which the applicant claims to be his/her particular contribution to the art.⁸⁰

The application is then filed with the PTO where it is given a filing date and an application number and is assigned to the docket of a patent examiner. Over a period of 18 months to several years, the patent examiner and the applicant's counsel will engage in intermittent correspondence concerning the merits of the subject matter claimed in the application.⁸¹ During this ex parte process,⁸² it is the obligation of a patent examiner to ensure that the application is complete, that the specification enables those skilled in the art to practice the invention, that the claims define proper subject matter of a utility

⁷⁶ Section 111.

Sections 116-18. Even though the invention was "for hire," it must be filed in the inventor's name, not the assignee's. Contrast copyright, infra, at note 125.

With regard to joint inventors, see §262. Insofar as both have unrestricted right to practice and to assign that right, it is wise to convey all interests to a single entity. Many companies will regard nonexclusive rights as unattractive. Thus, unless all inventors can agree on an assignee, none will have an interest which is worth much.

Plant patents were and will be a necessary exception until such time as genetic engineering makes it possible to "invent" them; §161. But see Diamond v. Chakrabarty, 447 U.S. 303 (1980).

⁷⁹ Sections 111-15, 41.

⁸⁰ Section 112.

⁸¹ Sections 131-33.

⁸² Section 122.

patent,83 that it is useful,84 new or novel,85 and not obvious to those skilled in the art at the time of the invention.86

It is in regard to the novelty requirement, especially, that the generalist may be able to avoid loss to a client. In the U.S. an invention is not novel, and is therefore unpatentable, unless an application is filed within a year of the time the invention is first sold, used publicly, or described in a printed publication.⁸⁷ This means that if the inventor, for example, publishes an article that describes his/her invention, there is one year from the date of publication in which to file a patent application; by failure to so file, the invention is no longer patentable.⁸⁸

If the application meets the statutory requirements to the satisfaction of the patent examiner, the application is prepared for issue upon the payment of a fee.⁸⁹ An application may be drawn, however, into an *inter partes* contest called an "interference" at the time it is prepared for issuance. Because only one patent may issue for a single invention, interference proceedings are used to determine who is the *first* inventor.⁹⁰

In anticipation of interferences, too, proper, early counseling by a generalist may prove to be of immense value. It is important to have a believable record of what the inventor did — and when he/she did it — to use as evidence in an interference proceeding. As soon as the lawyer becomes aware of a client's innovative activity, he/she should suggest that third-parties be asked to witness, in writing, that they have read and understood the invention. Fortunately, however, few applications get drawn into interferences.

Should the patent attorney be unable to convince the patent examiner of the merits of the application (or in the rare case, be unable to prevail in an interference), the applicant may abandon the applica-

⁸³ Notes 68, 69, 73-75, and discussion, supra.

⁸⁴ Section 101.

⁸⁵ Section 102.

⁸⁶ Section 103.

⁸⁷ In many countries there is no such grace period. See, e.g., Dickson, A Push for European Patent Reform, 227 SCIENCE 926 (1985).

The PTO has a "Document Disclosure Program." As discussed in a brochure explaining the program (available from Commissioners of Patents, Wash., DC 20331), that is not a foolproof way to establish priority of invention, and is of no use whatsoever in avoiding the §102 bar.

⁸⁹ Sections 151-53, 44.

⁹⁰ Section 135.

⁹¹ See note 88, supra.

tion, refile it, or initiate a series of appeals within the PTO⁹² and ultimately to the Court of Appeals for the Federal Circuit⁹³ (and in the truly rare case, seek *certiorari* to the U.S. Supreme Court).⁹⁴

B. The Patent and the Courts

Once a patent has issued (no rights arise before issue),⁹⁵ the patentee may discover that someone else is practicing the invention. After informal means of resolving the dispute have failed, the patentee may bring a very expensive and time-consuming infringement action in the federal courts to protect his/her interest.⁹⁶ Remedies include injunction against further infringement and recovery of up-to-three-times damages.⁹⁷

A company accused of infringement has several defenses available:⁹⁸ (1) that its acts are not within the scope of the patent claims; (2) that it is practicing the invention under a valid license (essentially a contract suit); (3) that the patentee is misusing the patent grant;⁹⁹ and (4) that one or more of the claims are invalid. The fourth, in particular, will be fatal to the claim(s) in controversy. Once they have been declared invalid, and are no longer subject to appeal, the subject matter of invalid claims is irrevocably lost into the public domain.¹⁰⁰

In spite of a legislative presumption of the validity of a patent, ¹⁰¹ there have been times when some courts seemed to be far too quick to hold patents invalid. A justice of the United States Supreme Court once remarked that the only valid patent was one which that Court

⁹² E.g., §§120, 134.

⁹³ Sections 141-44, 145, 146.

⁹⁴ E.g., note 69, supra.

Thus, the phrase "patent pending" is no more than a warning that a patent may issue. See, e.g., Morehouse Mfg., note 36, supra. See also §292 which prohibits false marking.

Arbitration is also a possibility; §294. See, e.g., Field, Patent Arbitration ..., 24 IDEA 235 (1984). In fact, arbitration may also be used to resolve interferences; §135(d).

⁹⁷ See generally §§281-88. Also §289 provides minimum statutory damages for design patents.

⁹⁸ Section 282.

⁹⁹ See generally, e.g., Lowin, note 63, supra.

Section 288. See also Blonder-Tongue Laboratories v. Univ. Ill. Fndn., 402 U.S. 313 (1971).

¹⁰¹ Section 282.

had not yet gotten its hands on.¹⁰² Patentees did not fare well either in the Supreme Court or in several of the circuit courts of appeals.

If one assumes that only legitimately contestable patents result in litigation, patentees should have had about a 50-50 chance of success (notwithstanding the presumption of validity). In many jurisdictions, however, the patentee rarely prevailed and contested patents were routinely invalidated.¹⁰³

Moreover, in recent years the patentee seemed to have an increasingly heavy burden to overcome the defense of misuse. It is a fundamental maxim of equity that one who seeks relief must come into court with clean hands. On the basis of various antitrust theories, patentees found that their hands had to become cleaner and cleaner to recover from an admitted infringer of a valid patent. But the problems of a patentee with unclean hands do not end with a finding of misuse; one shade beyond misuse lurks possible violation of antitrust law.¹⁰⁴ As a result of such problems, some (if not many) patent attorneys began to have serious doubts about the value of patents¹⁰⁵ and turned to the President and Congress for relief.

Junguson v. Ostby & Barton, 335 U.S. 560, 572 (1949) (Jackson dissenting). See also Fortas, The Patent System in Distress, 53 J. PAT. OFF. SOC'Y. 810 (1971).

¹⁰³ See, e.g., Kitti, Patent Validity Studies: A Survey, 20 IDEA 55 (1979). See also LOWIN, THE PRESUMPTION OF VALIDITY.... (F.P.L.C. 1979); Field and Field, Post Hoc Evaluations..., 20 IDEA 29 (1979).

¹⁰⁴ Note 99, supra.

To the extent that patents serve as an incentive to invest in research and development, it is totally irrelevant whether that assessment was or was not "true" in some wholly objective sense. Thus, investors seem likely to act on the basis of what they believe to be the odds of recouping risk capital. So far as I have been able to determine, no one who is professionally qualified to investigate attitudes (psychologists, not economists) has ever investigated this problem.

Indeed, it is possible that such *perceptions* and *attitudes* could, at any given point in time, be totally out of phase with more objective assessments of the "value" of patents (or copyrights or trade secrets for that matter).

While similar efforts had failed prior to about 1980,¹⁰⁶ the situation has changed dramatically in the past few years, and a number of helpful amendments have been enacted. Moreover, the Supreme Court is also presently seen as more favorably inclined toward patents and other intellectual property.¹⁰⁷ The specifics are beyond the scope of this ariticle, but the general effect is likely to be one of encouraging research and technological enterprise in the United States. Nevertheless, as will be discussed in Part VIII, much remains to be done.

V. COPYRIGHT¹⁰⁸

A. In General

Some of the most significant changes in intellectual property in the past ten years have occurred in the copyright law. In 1976, there was a complete replacement of the law which had previously been changed but little since 1909. Probably the most fundamental change is reflected in §301(a) which provides:

On and after January 1, 1978, all legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright as specified by section 106 in works of authorship that are fixed in a tangible medium of expression and come within the subject matter of copyright as specified by sections 102 and 103, whether created before or

See generally, Industrial Innovation: Joint Hearings Before the Senate Comm. on Commerce, Science and Transportation, and Select Comm. on Small Business, and House Comms. on Science and Technology, and Small Business, 96th Cong., 1st Sess., Parts 1 and 2 (1979). The opening statements in Part 1 are of particular interest.

As part of a lively exchange in the hearings, Dr. Press stated: "For twenty-five years the question of innovation and Americans' ability to innovate has been... around; it's been studied to death"; id. (Part 1), at 40. Unfortunately, this suggests more than is the case. While a great deal of data has been collected, its meaning is far from clear; see, e.g., KITTI and TROZZO, THE EFFECTS OF PATENT AND ANTITRUST LAWS... ON INNOVATION (Inst. for Defense Analyses, 1976). Also, whatever meaning can be extracted from a particular study, the collection of data is often sufficiently circumscribed that generalization may be difficult — if not impossible; see, e.g., Tewksbury et al., Measuring the Societal Benefits of Innovation, 209 SCIENCE 658 (1980). At 658, the authors state: "A sample which was as representative as possible... would have been desirable.... As a practical matter... information... was so difficult to obtain that availability of data became dominant in the selection of cases."

Thus, the situation is not much different from what it was when Machlup did his study in 1958; see note 58, supra, at 2-5 and 19-44.

¹⁰⁷ See, e.g., Dawson, note 66, supra.

¹⁰⁸ Citations in this part, unless otherwise indicated, are to Title 17 of the U.S. Code (1984).

after that date and whether published or unpublished, are governed exclusively by this title. Thereafter, no person is entitled to any such right or equivalent right in any such work under the common law or statutes of any State. [Emphasis added.]

Prior to that, copyright was a peculiar blend of state (mostly common) law and federal statutory law. Although there had been limited opportunity to register a work under the 1909 law prior to publication, "publication" was a critical watershed. At that point, a work either qualified for federal protection or it was lost forever. Now, federal protection attaches automatically from the first "fix[ing] in a tangible medium" and the act of "publishing" is less important than it was prior to 1976. 109

Yet the situation, in some ways, is more complicated than ever. Consider \$301(b) which provides:

Nothing in this title annuls or limits any rights or remedies under the common law or statutes of any State with respect to —

- (1) subject matter that does not come within the subject matter of copyright as specified by sections 102 and 103, including works of authorship not fixed in any tangible medium of expression; or
- (2) any cause of action arising from undertakings commenced before January 1, 1978; or
- (3) activities violating legal or equitable rights that are not equivalent to any of the exclusive rights within the general scope of copyright as specified by section 106.

Serious issues are: What are (1) "the subject matter of copyright...," and (2) "rights not equivalent to [those]... within... copyright..."? A full treatment of those issues is well beyond the scope of the present article but some brief discussion is nevertheless warranted.

B. Subject Matter

The primary listing of subject matter is in §102(a).

Copyright protection subsists, in accordance with this title, in *original* works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include the following categories:

- (1) literary works;
- (2) musical works, including any accompanying words;
- (3) dramatic works, including any accompanying music;
- (4) pantomimes and choreographic works;
- (5) pictorial, graphic, and sculptural works;
- (6) motion pictures and other audiovisual works; and
- (7) sound recordings. [Emphasis added.]

¹⁰⁹ Compare §301(a) in the text with Field, note 1, supra; W.V. L. REV. at 531, 537; P.E.A. L. Q. at 307-8, 314-5.

78

However, there are some very important provisions in fairly obscure places. For example, that computer programs are implicitly included is clear only from a reading of \$117 (which was amended to that end in 1980).¹¹⁰ Also, \$101, which contains a host of definitions (in alphabetic order), merits close examination. That section provides, for example, the following definitions which are critical to an understanding of \$102(a)(5).

"Pictorial, graphic, and sculptural works" include two-dimensional and three-dimensional works of fine, graphic, and applied art, photographs, prints and art reproductions, maps, globes, charts, technical drawings, diagrams, and models. Such works shall include works of artistic craftsmanship insofar as their form but not their mechanical or utilitarian aspects are concerned; the design of a useful article, as defined in this section, shall be considered a pictorial, graphic, or sculptural work only if, and only to the extent that, such design incorporates pictorial, graphic, or sculptural features that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article. [Emphasis added.]

A "useful article" is an article having an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information. An article that is normally a part of a useful article is considered a "useful article".

In addition to attending to the "useful"/useless(?) dichotomy which attempts to define the subject matter split between design patent and copyright,¹¹¹ one also needs to pay careful attention to §102(b).

In no case does copyright protection or an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

That section is attempting to exclude not only the subject matter of utility patents, but also, e.g., that of trade secrets which will be discussed below.¹¹² Thus, in the absence of a patent covering contested

See, e.g., Apple Computer v. Franklin Computer Corp., 714 F.2d 1240 (3d Cir. 1983); Apple Computer v. Formula International, 725 F.2d 521 (9th Cir. 1984).

¹¹¹ But see Mazer v. Stein, 347 U.S. 201 (1954).

However, the Copyright Office is muddying the water; see, e.g., Marsteller and Tucker, Copyrighting Trade Secrets..., 25 IDEA 211 (1985). See at 218-22, especially the discussion of 37 C.F.R. §202.20, at 219-20.

It also excludes subject matter not otherwise protected. It is extremely doubtful, for example, that a new method of testing for a psychological characteristic is patentable subject matter. What, then, would a copyright on a questionnaire designed to that end cover? See Baker v. Selden, 101 U.S. 99 (1879); also e.g., Morrissey v. Proctor & Gamble Co., 379 F.2d 675 (1st Cir. 1967). Keep in mind that any modification in the wording of the instrument could have a large effect on its "validity" (utility). See, e.g., Field and Field, note 103, supra, at 47-52.

subject matter, one is likely to encounter \$102(b) in conjunction with \$301(b) in trying to determine whether federal copyright or the state law regarding, e.g., trade secrets, governs a particular controversy. 113 However, before further pursuing that topic, it will be useful to consider other matters.

C. Obtaining Protection

It is implicit in §102(a), supra, that no act other than "fixing" is necessary to have copyright protection. Yet other acts are necessary to be fully able to exploit that protection. The most critical is providing notice of a claim of copyright at the time a work is "published." Prior to 1976, such omission was fatal. Since 1976, it is not necessarily fatal, but failure to provide notice as described in §§401-4 is foolish. Moreover, one should not be concerned about the meaning of the word "published": when in doubt, insert the proper notice. No harm results from notice on works that prove to have been "unpublished."

If copyright is obtained by "fixing" and is retained by attaching notice, e.g., to multiple copies or public displays of a work, what does the Copyright Office do? Doesn't it examine applications for copyright? Nothing could be more dangerous than that last notion. The Copyright Office, a branch of the Library of Congress, 115 is a registry much like that which records deeds in local government. The chief officer of the agency is called the Register of Copyrights. Although the statute uses the word "examination" in §410(a), and the Office sometimes rejects an application because of improper subject matter, 117 for the most part, its function is purely ministerial. While every generalization has its exceptions, it is accurate to say that the Copyright Office's function is primarily limited to the following: (1) Collecting books for the Library of Congress (in most cases, one or more samples of the work to be registered must accompany the

However, to have a conflict the subject matter has to be something which can be kept secret, a serious problem for subject matter such as that in note 112, supra. Compare Schuchart & Assoc., Prof. Engineers v. Solo Serve Corp., 540 F.Supp. 928 (W.D. Tx. 1982). See also note 149 and discussion, infra.

¹¹⁴ See §405. Compare §405(a)(2) with §408(a)!

¹¹⁵ Section 701.

Although apparently a part of the *legislative* branch, The Register reports to the Librarian of Congress who is appointed by the President. See §702; also 2 U.S.C. §136 (1985).

¹¹⁷ See, e.g., Esquire v. Ringer, 591 F.2d 796 (D.C. Cir. 1978).

registration form);¹¹⁸ (2) Collecting the registration fee,¹¹⁹ and (3) Issuing and recording certificates of registration and assignments.¹²⁰

There is no time limit within which the registrant must send copies of the work,¹²¹ the registration form, and fee to the Copyright Office. The registration certificate is, however, the copyright proprietor's ticket into court in the event of alleged infringement.¹²² Also, while \$408(a) indicates that registration is "permissive," §412, in a trap for the unwary, limits the remedies available for pre-registration infringements.

D. Duration of Protection

For living authors, who do not publish anonymously or under a pseudonym, copyright endures until 50 years after the death of the last survivor (if more than one author).¹²³ If the work is made "for hire," ¹²⁴ e.g., a dictionary where a corporation could be regarded as the "author," ¹²⁷ the term as set forth in §301(e) is 75 years from the date of publication or 100 years from creation, whichever is shorter. ¹²⁶

It also merits noting here that if an author transfers copyright in a work, that author (or successors) has the option, under §203, of termination 35 years from the date of the transfer of interest. This means that if an author sells a work early in a career for a low price, there is an opportunity to reconvey for a higher price should the work endure or become more valuable over time. Also, the option to terminate is inalienable under §203(a)(5).¹²⁷

E. Infringement

The exclusive rights in copyrighted works are set forth in §106. Not only do they include the right to copy and sell (or lease), but also, for

¹¹⁸ In some cases "deposit" may be obligatory even though "registration" is not; see §407.

¹¹⁹ Section 708 (\$10.00).

¹²⁰ Sections 204, 410.

¹²¹ But see §§407(d), 405(a)(2).

¹²² Section 411.

Sections 302-4. If more than one author, see note 77, supra; §201(a).

¹²⁴ See §101 ("work made for hire").

¹²⁵ See §201(b). Compare note 77 and discussion, supra.

¹²⁶ Section 302(c).

¹²⁷ If more than one author, see §203(a)(1).

certain kinds of works, the right to perform¹²⁸ or display the work publicly.¹²⁹

Remedies for infringing those rights include injunction, impounding (and destroying or otherwise disposing of) infringing copies, costs and attorneys' fees, damages and profits, and statutory minimum damages. ¹³⁰ In addition, the statute provides for criminal sanctions against those who infringe willfully and for gain. ¹³¹

A certificate of registration issued before or within five years after publication of a work constitutes "prima facie evidence of the validity of the copyright and of the facts stated in the certificate." While this may seem more open to challenge than a patent, a copyright is not likely to be invalidated. Mere subjective novelty is all that is required to sustain a copyright if the subject matter is appropriate. This means that any number of valid copyrights could exist in essentially indistinguishable works (e.g., photographs of the same tree, taken from the same angle), each in a different "author." So long as none of those were copies of a prior work or derived from a prior work (e.g., a film based on a novel), rights in each would be separately enforceable by the respective authors. 133

Thus, the focus of copyright litigation is more likely to be on whether infringement has occurred. There are a number of ways in which a defense could be framed, e.g., that (1) the allegedly infringing work was not a copy of nor improperly derived from the other, ¹³⁴ (2) the work may have been, at some level, inspired by the first, but it is not sufficiently similar to be regarded as infringing, ¹³⁵ or (3) the use made of the earlier work was proper.

The third category of defenses can be further subdivided, e.g., that the use was (1) not one forbidden by §106,136 (2) one permitted by

¹²⁸ For those works to which it applies, the right is closely akin to that under a patent and is somewhat inconsistent with \$102(b) (see text supra, at note 111).

¹²⁹ See §101 ("perform or display...").

¹³⁰ See generally §§501-10.

¹³¹ Section 506.

¹³² Section 410(c).

See §102(b); Bleistein v. Donaldson Lithographing Co., 188 U.S. 239 (1903); compare, e.g., Gross v. Seligman, 212 F. 930 (2d Cir. 1914); Dallas Cowboys Cheerleaders v. Scoreboard Posters, 600 F.2d 1184 (5th Cir. 1979) — but see at 1188.

¹³⁴ Id

E.g., Universal Athletic Sales Co. v. Salkeld, 511 F.2d 904 (ed Cir. 1975), cert. denied, 423 U.S. 863; Ideal Toy Corp. v. Sayco Doll Corp., 302 F.2d 623 (2d Cir. 1962)

¹³⁶ See, e.g., Baker v. Selden, note 112, supra.

§102(b),¹³⁷ or (3) one permitted by "fair use" as defined in §§107-117. The latter two are most likely to cause trouble for a newcomer to copyright law.

The \$102(b) defense is essentially a subject matter defense. Insofar as copyrights do not involve precise subject matter claims as patents do, there will be problems (so long as subject matter is restricted) to be first addressed in the courts. Thus, it will be up to the courts to decide that a bridge does not infringe a drawing of a bridge, whereas a doll infringes a drawing of a doll — or that a directory which is identical to another does not infringe (so long as the author of the second directory went to the trouble of independently collecting the information), whereas a motion picture which is only substantially similar to a play infringes the play! 141

An even more common problem is posed by "fair use." That doctrine, originally evolved by the courts, presently appears in its most generic form in \$107.\frac{142}{2}\$ It applies when there is no doubt that use of a work would be an infringement but for the fair use doctrine.\frac{143}{2}\$ In essence, that doctrine permits one to use another's work in circumstances where the amount of copying and the purpose of the copying are such as to cause little likelihood of injury to the owner and are justified on policy grounds. Were it not for the fair use doctrine, a critic or a scholar could never quote a copyrighted work without permission or without incurring the risk of paying, e.g., costs, attorneys' fees, and/or statutory damages.\frac{144}{2}\$ The existence of those sanctions probably accounts for "fair use" being close to unique as a defense to private use of someone else's property.

¹³⁷ Id.; see also note 133, supra.

¹³⁸ Muller v. Triborough Bridge Authority, 43 F.Supp. 298 (S.D. N.Y. 1942).

¹³⁹ See, e.g., Fleischer Studios v. Freundlich, 73 F.2d 276, 278 (2d Cir. 1934).

Compare Schroeder v. William Morrow and Co., 566 F.2d 3 (7th Cir. 1977).

Sheldon v. Metro-Goldwyn Pictures Corp., 81 F.2d 49 (2d Cir. 1936), cert. denied, 298 U.S. 669 (1936).

¹⁴² See also §§108-117.

¹⁴³ Compare Dallas Cowboys Cheerleaders, note 133, supra.

¹⁴⁴ Notes 130, 131 and discussion, supra.

VI. TRADE SECRETS

Trade secret law, in terms of subject matter, overlaps that of both patents¹⁴⁵ and copyrights.¹⁴⁶ This body of state law prevents the use of know-how or other business information which is not generally known to competitors. Unlike patents and copyrights which have a constitutionally mandated terminus,¹⁴⁷ trade secrets have a potentially perpetual duration.¹⁴⁸

The theoretical duration, however, is undercut by the nature of the protection afforded to trade secrets. A peculiar blend of contract and tort, trade secret law does not prevent another from obtaining the same information by independent effort. Indeed, for reasons which have been articulated as founded on federal peremption and which go to the heart of antitrust law, a competitor is free to "reverse engineer" or otherwise duplicate any product found in the marketplace — so long as it is not protected by a patent or copyright. 149

Thus, one may obtain another's trade secret by any means short of otherwise criminal or tortious conduct.¹⁵⁰ In one case, a person photographing a plant under construction from an airplane (and not a trespasser) was found to have engaged in improper conduct. However, the case is an anomaly unless it is regarded as implicitly creating a corporate right of privacy!¹⁵¹

The "contract" part of trade secret (and related) law arises in several ways. Sometimes this is closely intertwined with a question of

¹⁴⁵ See generally Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470 (1974).

¹⁴⁶ E.g., a sales directory could be kept secret and used only for internal purposes or could be reproduced for sale to others. But see Marsteller and Tucker, note 112, supra.

¹⁴⁷ Note 60, supra.

That trade secret protection is therefore unconstitutional was rejected in Kewanee, note 145, supra.

The most famous case to the contrary is International News Service v. Associated Press, 248 U.S. 215 (1918). But see, e.g., 122 CONG. REC. S.2042-43 (Feb. 19, 1976) (letter from Dept. Justice) and H.10910 (Sept. 22, 1976) (stmt. of Rep. Seiberling). Citing, e.g., Sears, Roebuck & Co. v. Stiffel Co., 376 U.S. 225, and its companion, Compco Corp. v. Day-Brite Lighting, 376 U.S. 234 (1964), D.O.J. urged that the language which is now 17 U.S.C. §301(b)(3) be amended to avoid reinstating the "misappropriation" doctrine as defined by International News, supra. The section now reads as suggested by the Department.

Trade secret law emphasizes *how* information is obtained not *that* it is obtained; see, e.g., Tabor v. Hoffman, 119 N.Y. 30, 23 N.E. 12 (1889). See also Kewanee, note 148, supra.

E.I. duPont de Nemours & Co. v. Christopher, 431 F.2d 1012 (5th Cir. 1970), cert. denied, 400 U.S. 1024 (1971). Compare note 149, supra.

whether there is, in fact, a trade secret. Some of the most difficult problems arise when an employee changes jobs. First, there is a question of whether the employee had a contract expressed or implied (in fact or law) not to use or divulge information obtained during the course of his/her employment. Second, there is a question of whether that information is, on the one hand, a trade secret or, on the other, mere job skill. Any attempt to avoid the second question by use of an employee covenant not to compete (or to go to work for a competitor) is extremely risky. If the conditions are unreasonable or in excess of statutory maxima, the contract will be unenforceable. Similar kinds of problems can also arise when a business is sold or when two companies are dealing in other ways.

Another kind of problem arises when an outsider submits material to a commercial enterprise for possible purchase. These are not technically "trade secret" cases insofar as the usually accepted definition contemplates that a "trade secret" has current or prior commercial use — not only potential value. 156

The law in this area is difficult to understand unless one approaches it from a contract standpoint. One thing to consider is the custom in the trade. Another is the status of the person supplying the information. If the latter is a professional and the custom is to accept and pay for the use of "unsolicited" information, there is likely to be a contract implied in fact to pay if it is used — and regardless of whether others might also have the same information. If In contrast, if the outsider is an "amateur" (and there is no established trade practice upon which he/she can arguably have relied), that person may be found to have been a "volunteer" or to have submitted an idea which is either obvious or sufficiently abstract as to have no value. Is

An attorney who has the opportunity to intervene should attempt to have the proposed recipient of information sign a confidential non-

An especially interesting factual and procedural situation is presented in American Can Co. v. Mansukhani, 742 F.2d 314 (7th Cir. 1984). See, e.g., at 329.

¹⁵³ See, e.g., Reed, Roberts Assoc. v. Strauman, 40 N.Y.2d 303, 307; 353 N.E.2d 590, 593 (1976).

¹⁵⁴ See, e.g., NCH Corp. v. Broyles, 749 F.2d 247, 251 (fn. 5) (5th Cir. 1985).

¹⁵⁵ E.g., Kewanee, note 145, supra.

¹⁵⁶ RESTATEMENT OF TORTS, §757 (1939). See also id., §759.

¹⁵⁷ See, e.g., Chander v. Roach, 156 Cal. App. 2d 435, 440-42, 319 P.2d 776, 780 (1957).

¹⁵⁸ Compare Liggett & Myer Tobacco Co. v. Meyer, 101 Ind. App. 420, 194 N.E. 206 (1936) with, e.g., Downey v. General Foods, 31 N.Y.2d 56, 286 N.E.2d 257 (1972). It is also interesting to contrast the latter with the decision it reversed: 37 App. Div. 2d 250, 223 N.Y.S. 2d 874 (1971).

disclosure agreement. In essence, it would provide that the person to whom the information is to be supplied agrees, in consideration of the opportunity to evaluate it, (1) not to use it without compensation (later to be negotiated), and (2) not to disclose it.

However, do not be surprised if this offer is rejected. Companies do not want (1) to have extraordinary duties to avoid the information's getting into the wrong hands, or (2) to have to pay for information they already have. Equally important, they may already have hundreds of product ideas (generated within the company) which, for one reason or another, they are unable to use.¹⁵⁹

VII. WEIGHING OPTIONS

There is a rich variety of options for protecting new works from free riders — or even independent originators. In approaching any given work, one must be careful to identify and weigh all of them. Moreover, one needs to be alert to the possibility of forfeiting one option when others are pursued. Consider the following hypothetical:

About a year ago, a rural Yankee craftsman took a trip to Big City. While there, he saw something called a "sound sculpture" on display. From the outside, it looked like an elongated box with two round holes. It was accompanied by a heavy metal ball. When the holes were properly oriented and the ball was dropped into the upper one, it would roll through a complex interior pathway, making various kinds of noises before exiting at the other hole.

The inventor generally might undertake to promote his own invention in whatever manner he can and to whatever degree of effectiveness. After an unbusinesslike solicitation effort to various companies, resulting in total rejections, he understandably looks for outside help only to find there is little or none available at this particular juncture. Thus, somewhat disillusioned and perhaps embittered, it is no wonder that the typical amateur inventor is eventually driven into the waiting arms of the invention promoter. In an indifferent world, the IP tells the inventor exactly what he has been searching in vain to hear — the promise of success in terms that for the first time he can directly relate to. The IP preys on the inventor's intense ambition by offering him the one thing he must have to sustain himself — hope. And hope, in the final analysis, is what the IP is selling.

Of course, some of the firms are honest and competent, but one needs to be extremely cautious because many are not. See, e.g., Arnesen, note 73, supra.

See generally Hawkins and Udell, Corporate Caution and Unsolicited New Product Ideas, 58 J.P.O.S. 375 (1976). Moreover, one should be leery of invention promotion companies. See, e.g., Onanian, Invention Promoters, Invention Management, May 1979. At p. 3 of an issue devoted solely to the topic, Mr. Onanian writes:

As a cabinetmaker and an amateur musician, the hypothetical craftsman was intrigued. Returning home, he began to experiment with various kinds of balls, path configurations, surfaces, etc. Soon he had made several which were attractive both to see and hear. Also, he used glass for one of the sides — so that the ball could be observed as it made its trip through the box. Finally, he hinged several segments of the pathway, and, through the use of exterior knobs and levers, made it possible to rearrange the interior to get different sound effects.

In every one of them, just before the exit, the ball would pass five metal pegs which produced a five-note sequence. Also, in every box, the five-note sequence was the same. The craftsman has begun to display them at fairs, but he has refused to sell any. He is calling them "B# Sound Sculptures." Because a great many people have shown a great deal of interest, he has decided to seek legal counsel.

How should he be advised? In this seemingly simple situation lurks the potential for exercising almost every option heretofore discussed.

A. The Need for Urgency

The first thing that should occur to a lawyer is whether public display of the work may compromise existing or potential rights under the patent or copyright law.

Arguments could be made that public display (or even sale) of unique works without notice has not compromised any copyright interest, but henceforth, notice should be provided. Also, registration should be prompt. Second, arguments could be made that any display of the work which falls short of teaching others how to practice whatever "inventions" may be present would not be a bar to a utility patent. Yet, it would be foolish not to file, if at all, within a year. Finally, it seems likely that the display alone is adequate to bar a design patent if the application is filed more than a year after the first occurence. Thus, an appraisal of options is a matter of some urgency.

B. Trademarks

There are at least two possibilities: "B#"¹⁶³ and the five-note sequence. However, the term "sound sculpture," presents a problem. If there is more than one other source of such things (and that is what they are consistently called), the term is surely generic. It

¹⁶⁰ Note 114 and discussion, supra.

Notes 87, 88 and discussion, supra.

¹⁶² Id.; also 35 U.S.C. §171. A mere display of a design seems more than adequate for another to duplicate it.

¹⁶³ Assuming that all of the "music" is not in the key of C (B#). See note 22 and discussion, supra.

¹⁶⁴ See 1 MC CARTHY, note 6, supra, at 279.

seems about as descriptive as one can get, but a search of registers is nevertheless in order.¹⁶⁵ Also, of course, a search is needed to see whether "B#" or the note sequence has been registered or is being used on similar goods.¹⁶⁶

Assuming that a search clears the marks, prompt federal registration should follow a realistic appraisal of the market and the first opportunity for a sale of the goods across state lines.¹⁶⁷

C. Trade Secrets

Unless there are unobvious tricks involved in making the works, trade secrets, in the strictest sense, are not much of an option. Even if one cannot figure out all of the details of making the sound sculptures from a casual examination, as soon as they are sold, any purchaser will be able to take the thing apart and reproduce it.¹⁶⁸

If the craftsman plans to try to sell his rights in the sculptures rather than manufacture them himself, caution is nevertheless in order. He should not discuss the way he makes them nor show any patterns, etc., prior to getting a nondisclosure agreement from a potential commercial exploiter. Indeed, should he remain an entrepreneur, merely farming out the manufacture of the product, he should have noncompetition agreements to cover (reasonably) any know-how or patterns made available to others.

D. Copyright

Within this broad category, the options are rich and not at all straightforwardly pursued. Possibilities include (1) the patterns for making the sound sculptures, (2) the sculptures as such, and (3) the "music" they generate.

As soon as the craftsman created them, the patterns were covered by copyright.¹⁷¹ Thus, he could recover from others who engage in unauthorized copying. However, unless he intends to make his money from "do-it-yourselfers," he would be foolish to publish the patterns or to register them unless the sound sculptures themselves are copyrightable, it seems that others would be free to use the patterns to

¹⁶⁵ See Park 'N Fly, note 54, supra. Also, one should pay attention to the way the term has been used by the prior artist.

¹⁶⁶ Note 27 and discussion, supra.

¹⁶⁷ Notes 37, 38 and discussion, supra.

Notes 149-52 and discussion, supra.

¹⁶⁹ But see note 159 and discussion, supra.

¹⁷⁰ Note 155, supra.

¹⁷¹ Note 109 and discussion, supra.

make the sculptures — and registration would provide public access to those patterns.¹⁷²

Whether the "sculptures" themselves are legitimate copyright subject matter is far from clear. The question, of course, is whether they are "useful," and the answer is likely to emerge only in litigation. Should the Copyright Office be inclined to register them, that would be helpful, but there would be ample basis for an infringer to challenge the registration and/or its scope. How would one go about distinguishing these works from other mechanical devices for producing music? Consider, e.g., player pianos.¹⁷³

Finally, the "music," per se, is even more perplexing. Insofar as the music would be difficult to impossible to score, perhaps it could be protected under the somewhat restrictive provisions applicable to "sound recordings." Again, clear answers would require litigation.

E. Design Patent

To the extent that the sound sculptures discussed in the hypothetical are *unobvious* variations on the ones which inspired them or each other, they would also qualify for a 14-year design patent. They clearly fit the subject matter definition ("new, original and *ornamental* design for an article of manufacture") otherwise. However, this protection would be much shorter in duration, much more expensive and time-consuming to obtain, and much more difficult to enforce. While design protection *does* afford relief against independent originators of the protected subject matter, in this case, that benefit would hardly seem worth the cost and risk if copyright covers the same subject matter.¹⁷⁵

F. Utility Patent

There is a wide range of potential subject matter for utility patent. The sound sculpture, per se, would qualify as an "article of manufacture" or "machine." However, claims would have to be narrowly drawn to exclude what is already in the public domain. At the broadest level, the variability of the pathways is a potentially patentable improvement over nonvariable sound sculptures. At the narrowest level, there is potential for various novel hinges and other mechanical means to accomplish that end. The most likely problem

Compare note 138 with 139, supra.

Note 111 and discussion, supra; Esquire, note 117, supra; also 17 U.S.C. §113.

¹⁷⁴ Compare 17 U.S.C. §114 with §115.

See, e.g., Ideal Toy, note 135, supra, at 626-7 (Clark, dissenting).

¹⁷⁶ Notes 68-70, 73-75, and discussion, supra.

would be to demonstrate that any of that subject matter would not be obvious to persons having ordinary skill with regard to such things.¹⁷⁷ As with design patents, it is doubtful that the market potential would warrant the expense to obtain protection beyond what is available under copyright — or the even weaker "protection" of the kind afforded against source and other misrepresentations.¹⁷⁸

G. The Bottom Line

Thus, we see that, notwithstanding valiant efforts to cover all "works of authorship... now or later developed," the copyright law has some flaws. Moreover, the patent statutes and trade secret law do not cost-effectively meet the needs of the craftsman or of others who may have vastly more at stake. In the last section of this paper, I will argue that the distinction between various kinds of intellectual property should rest on something other than subject matter per se.

VIII. CONCLUSION — A PROPOSAL FOR RECONCILING THE OPTIONS¹⁸⁰

Several of the more interesting and significant intellectual property cases have addressed conflicts between two or more species of it or the scope of subject matter covered by any one of them. 181 Often the first issue is an implicit consideration in dealing with the second. 182

Trademark and related law aside, 183 there are two basic devices for permitting the recoupment of risk capital. One of those can be called

Notes 86, 103, and discussion, supra.

¹⁷⁸ See generally part III. A., supra.

^{179 17} U.S.C. §102(a) (appears in its entirety in the text above note 110, supra).

This part is, in large measure, based on an unpublished manuscript entitled, "Industrial Property Needs in the 1990s and Beyond" (1980). I am grateful to the Dept. Commerce, Office of Strategy and Evaluation, for support, and to Arthur A. Cerullo and Gary R. Molnar for able assistance in getting to the heart of the problem. Messrs. Cerullo and Molnar are now in practice.

Mazer, note 111, supra (copyright v. design patent); Sears and Compco, note 149, supra (trademark related unfair competition v. design and utility patents); Kewanee, note 145, supra (utility patents v. trade secrets). The situation may be getting worse; see note 112, supra.

Baker, note 112, supra; International News, note 149, supra; Kellogg, note 24, supra; Muller, note 138, supra; Leblanc, note 33, supra; Esquire, note 117, supra; D.C. Comics, note 33, supra; Chakrabarty, note 78, supra; Apple v. Franklin, note 110, supra. In fact, it is difficult to separate these cases from the ones in note 181, supra.

¹⁸³ See generally part III. A., supra.

90

"patent," the other "copyright." There are minor inconsistencies in the present system, but, basically, a "patent" can be defined as a device which provides a *total* right to exclude to those who hold it.¹⁸⁴ In contrast, a "copyright" can be defined as a device for a limited exclusion of "free riders." So defined, the latter includes trade secrets as well. Were it not for the restrictive subject matter categories of copyright, it is probable that trade secret protection would, for the most part, be unnecessary. The exceptional circumstances are those in which free riders can use information without the owner being aware. Under such circumstances, neither the present copyright nor the present patent statute meets the need. 188

A. The Present Patent/Trade Secret System is Unfair

The stringent requirements for getting and the difficulties in enforcing¹⁸⁹ patents are warranted by a patentee's ability to exclude

This is likewise the situation with design patents. Compare, for example, Wallace, Design Patent Protection in the United Kingdom, in JEHORAM (ed.), DE-SIGN PROTECTION, 39 (Pub. by Ed., Amsterdam, 1975). Throughout, the author discusses, e.g., "examination" versus "registration" systems. However, subject matter per se should not be the watershed. Rather it should be whether one is precluded from using one's own work. Only when one is precluded from using the fruit of one's own labor should an examination system be in force.

A process of making a product is impossible to reverse engineer. Moreover, if there is more than one process for making a given product, there is no way for one having a patent on such a process to determine whether it is being infringed. Worse, if the inventor of such a process chooses to rely on trade secrets to avoid giving the invention away, there is a serious risk of his/her being excluded from the market by a subsequent inventor of the same process — should the second inventor choose to get a patent. See W.L. Gore & Assoc. v. Garlock, 721 F.2d 1540, 1549-50 (Fed. Cir. 1983). See also Leuzzi, Process Inventions: Trade Secret or Patent Protection, 66 J.P.O.S. 159 (1985).

Finally, even where the inventor chooses not to get a marginally enforceable utility patent on a process, competitors will catch on quite quickly to the fact that there is a solution to a problem. This, of course, is a great advantage to someone trying to decide whether or not to undertake research.

189 E.g., because a patent claim will be invalidated by undiscovered prior art irrespective of the effort that went into trying to identify it. Notwithstanding Gore, note 188, supra, there is some possibility that a patent filed on an invention previously practiced by another in secret will be invalid. See, e.g., Dunlop Holding Ltd. v. Ram Golf Corp., 524 F.2d 33 (7th Cir. 1975), cert. denied, 424 U.S. 958 (1976).

¹⁸⁴ See, e.g., note 90 and discussion, supra.

¹⁸⁵ See, e.g., note 112, supra.

¹⁸⁶ See, e.g., notes 149, 150 and discussion, supra.

¹⁸⁷ See, e.g., note, 112, supra.

all comers from practicing the invention.¹⁹⁰ In several instances, the price which is paid for that exclusivity is too high, and the exclusivity may be short-lived.

Consider, for example, a situation in which several major firms in an industry face the same problem. Each is highly motivated to invest in a solution. If, in fact, each invests considerable capital to arrive at about the same point at about the same time, only one will be free to practice the invention if any one of them gets a patent. Even if several apply for patents, only one will get the prize, and the others will lose their investment.¹⁹¹ Attempts to avoid that result by one or more applicants agreeing to recognize another's priority of invention (in return for a license) are full of antitrust and other pitfalls.¹⁹² The alternative is for the loser(s) to challenge the validity of the patent. Needless to say, the loser of an interference is uniquely qualified to succeed.¹⁹³ Moreover, if that happens, the field is open to free riders.¹⁹⁴

Second, consider the situation confronted by people such as the craftsman in the prior hypothetical. If the invention is purely mechanical, copyright under the present system is unavailable. Also, it is likely that it will be easily reverse engineered, and trade secret will be of no use. As discussed at length by another writer, that situation leads to large numbers of utility patent applications for rather trivial inventions. Some of these issue as patents if the claims have

Irrespective of the outcome of the scenario discussed in notes 188 and 189, a patent faces certain invalidity if it covers a product sold by another for more than a year prior to its filing date. See, e.g., Dunlop, note 189, supra.

¹⁹¹ It has been foolishly suggested that the frequency with which inventions are simultaneously made by two or more independent inventors indicates that we do not need a patent system to encourage invention; see, e.g., Machlup, note 58, supra, at 7 (fn. 36). This is equivalent to suggesting that three people reaching for a twenty dollar bill lost on a sidewalk would reach even if it were not there!

¹⁹² See, e.g., Moog v. Pegasus Laboratories, 521 F.2d 501, 504 (6th Cir. 1975), cert. denied, 424 U.S. 968 (1976).

¹⁹³ The situation is close to (or, if an interference has been settled, is the same as) the situation where a licensee challenges the validity of a patent. Estoppel doesn't apply, and it is doubtful that a promise not to challenge validity would be enforceable. See Lear v. Adkins, 395 U.S. 653 (1969).

A patent must tell how to practice the invention (35 U.S.C. §112), and this information is published when the patent issues (id. §154).

Van Santen, A Legislative Proposal to End Bootlegging in the Patent System, 6 PEPPERDINE L. REV. 297 (1979). See also U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, PATENTS AND THE COMMERCIALIZATION OF NEW TECHNOLOGY (DRAFT REPORT), 170-4 (June 21, 1982).

a sufficient number of limitations. While any given limitation may be obvious, it can be impossible for an examiner to show that all of them taken together are obvious. Notwithstanding that a competitor must copy quite closely to infringe such a patent, the Supreme Court has had little sympathy for the equities of the parties and has tended to find the claimed subject matter obvious.¹⁹⁶

As a final example, consider that varying amounts of money can be spent in prosecuting any given patent application. In the *best* of circumstances, the amount will be based on the projected market value of the invention.¹⁹⁷ Should the market be underestimated, patent claims can be narrower than they might have been or prior art can go unfound and undistinguished. Would-be entrants into the market protected by a patent have an inherent advantage: they have a much better estimate of its value (in foregone income in a *present* market).¹⁹⁸

B. Expanded Options: A Proposal

Each of the situations discussed above could be faced by a design as well as a utility patentee. In some cases, a *design* patentee may have a copyright option.¹⁹⁹ If that option is available, it is hard to imagine why anyone would pursue the patent. While copyright does not exclude independent originators, it goes a long way toward stopping free riders. Moreover, copyright is cheap and quick to obtain (usually) and will exist for a much longer term. Finally, instead of having to show *objective* novelty (not to mention unobviousness) in lengthy and expensive examination and enforcement proceedings, mere subjective

See, e.g., Graham v. John Deere Co., 383 U.S. 1 (1966) or Sakraida v. Ag Pro, 425 U.S. 273 (1976). See also VanSanten, note 195, supra 299 (fns. 13, 14 and discussion).

While the Court of Appeals for the Federal Circuit may have more sympathy for such inventors than some of the circuits have heretofore tended to evidence (see, e.g., note 103, supra), it remains to be seen whether the Supreme Court will go along.

In the worst of circumstances, people have a tendency to ignore such factors by protecting inventions no one wants. See, e.g., notes 64 and 65, supra; Onanian, note 159, supra.

Therefore, they may be able to afford to spend more time and money to dig up foreign publications; 35 U.S.C. §102(a) — or evidence of prior sale such as discussed in note 190, supra.

¹⁹⁹ Mazer, note 111, supra.

novelty is all that is required to uphold the validity of a copyright!200

Why should inventors who improve the function and appearance of "useful" things be denied a similar option? In the absence of such an option, of course, it is impossible to know how often it would be exercised. However, it is difficult to continue to deny reliable and cheap protection from free riders on the basis of confusing and arbitrary subject matter distinctions alone.

At least for some areas of technology, the availability of such an option would go further toward spurring innovation than any of the improvements which have been made or suggested for the present patent system. Moreover, it might well eliminate perplexing conflicts which so often occupy the time of the intellectual property bar to no useful end — as well as a number of patents that should never have issued.²⁰¹ It is indeed time for a fresh look at the entire area. In the absence of such an approach, we are likely to continue to see various kinds of stop-gap measures being taken on an ad hoc basis.²⁰²

There is little warrant for requiring more when protection is only from free riders. See also the discussion of "examination" versus "registration" systems in note 187, supra. Compare Clark's dissent in Ideal Toy, note 175, supra; Sherry Mfg. Co. v. Towel King of Fla., 753 F.2d 1565, 1569 (11th Cir. 1985).

²⁰¹ See note 196, supra; also Kewanee, note 145, supra, at 488.

See, e.g., note 110, supra. See also the uneasy compromise in regard to "mask works" in the Semiconductor Chip Protection Act of 1984, 98 Stat. 3347, inserting a new chapter 9 at the end of the Copyright Act (Title 17 U.S.C.), e.g., §§902(c), 906. See also OTA study, note 195, supra, at 174; Wilson and LeBarre, The Semichip Protection Act..., 67 J.P.O.S. 57 (1985).

While this protection is called "sui generis," except for its very short duration, it appears to be wholly consistent with 17 U.S.C. §102(b) (e.g., a copier is free to "reverse engineer"), if not with §102(a)(5). Such protection should be extended to works other than these and plant patents (see note 72, supra). Indeed, it is difficult to justify permitting free riders to reverse engineer.

Admittedly, there is a problem for one who has had access to the work of another to show independent origin, but that should nevertheless be obligatory — contrary to what is presently required. See, e.g., Downey, note 158, supra; Morrissey, note 112, supra.

94

SO-CALLED "SECONDARY CONSIDERATIONS" RELATED TO THE NONOBVIOUSNESS OF AN INVENTION

GUY MCCLUNG* AND RONALD G. BLISS**

The Court of Appeals for the Federal Circuit ("CAFC") began operations on October 1, 1982. The new Court is an Article III court which will now be the only forum for patent case appeals.

The CAFC has announced that previous cases of the old Court of Claims and of the old Court of Customs and Patent Appeals ("CCPA") will provide precedents for the CAFC. Many of the CCPA decisions differ markedly from decisions of circuit court of appeals on various points of patent law. This article will treat one issue of patent law as it has been discussed in several decisions of the CAFC and will compare the CAFC's position to that of the circuit courts. The issue is the status of so-called "secondary considerations" which are related to the nonobviousness of an invention.

^{*}Guy McClung, Fulbright & Jaworski, Houston, Texas; B.S. (St. Mary's, 1969); M.A. (Rice University, 1972); J.D. (University of Texas, 1977); Ph.D. (Rice University, 1982).

^{**}Ronald G. Bliss, Fulbright & Jaworski, Houston, Texas; B.S. (U.S. Air Force Academy, 1964); J.D. (Baylor University, 1976).

Federal Courts Improvement Act, Public Law 97-164, 97th Cong., 2d Sess., 96 Stat. 25 (1982).

² 28 U.S.C. §1295 (1982).

The Graham Case

In Graham v. John Deere Co.³, the United States Supreme Court explicitly mentioned what it called "secondary considerations":

Such secondary considerations as commercial success, long felt but unresolved needs, failures of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.⁴

Even before the *Graham* decision all of the circuit courts of appeal at one time or another had considered the role of "secondary considerations." That role was interpreted generally in three different ways:

One extreme views such considerations as truly "secondary" — as relevant only when the issue of patentability is "in doubt" or to "tip the scales." The other extreme uncritically accepts such considerations as the only safe basis for decision. The balanced and preferred view — and the one most often followed in fact if not in word — is that such "secondary" considerations are always relevant to the question of nonobviousness, particularly to the issue under the Graham analysis of the level of skill in a given art but must be examined with great care to determine their actual probative value in a particular case.

One Extreme Secondary Considerations – Irrelevant

One line of case law through the years has virtually ignored any evidence of "secondary considerations." This view has held that the term "secondary consideration" should be taken literally, with that type of evidence being considered only after a determination of obviousness has been made. For example, the often-cited case of Anderson's-Black Rock, Inc. v. Pavement Salvage Co.⁶ obliquely dealt with the considerations of a long-felt need in the industry and the commercial success which the invention had enjoyed. The court, in an off-hand manner, stated that "... but those matters 'without invention will not make patentability."

The court effectively did not consider the long-felt need and commercial success of the invention. Instead, the court established the nonpatentability of the invention and then discussed the secondary considerations.

^{3 383} U.S. 1 (1966).

⁴ Id. at 17-18.

⁵ 2 CHISUM, PATENTS §5.05 (1983).

^{6 396} U.S. 57 (1969).

⁷ Id. at 61.

In a somewhat less rigorous manner, the Seventh Circuit has taken the position that "... they [secondary considerations] only need be considered in close cases." *Medical Laboratory Automation v. Labcon, Inc.*⁸ Here the court granted the defendant's motion for summary judgment for invalidity. Having declared the claims invalid, the court then noted that the evidence of the defendant's having copied the device need not be considered, because as a matter of law there was no question of fact that the claims could be valid.⁹

The Other Extreme Secondary Considerations – Paramount

A second line of cases has given exceptional weight to evidence of various secondary considerations. As early as 1911, the Supreme Court recognized that the exact copying of an invention in a crowded field was solid evidence of nonobviousness. Diamond Rubber Co. v. Consolidated Rubber Tire Co.¹⁰ In the Diamond Rubber Co. case, the patent owner had a narrow improvement for a rimmed tire. The infringer extolled the virtues of an avalanche of prior art. Because the infringer precisely copied the invention, including the alleged "narrow improvement," the court reasoned that the form claimed in the patent was essential and was therefore an invention. The court also considered the immediate commercial success of the invention as relevant evidence of nonobviousness.¹¹

More recently, the Ninth Circuit has forcefully announced that evidence of long-felt but unsolved needs, the failure of others to solve the problem, acceptance by the industry and the commercial success of the device "are to be given weight" in determining nonobviousness. Santa Fe-Pomeroy v. P&Z Co., Inc. 12 In noting that not only do these secondary considerations also strengthen the presumption of patent validity under 35 U.S.C. §282, the court further noted that "... these 'subtests' are 'more succeptable of judicial treatment than are the highly technical facts often present in patent litigation." 13

⁸ 670 F.2d 671, 675 (7th Cir. 1981).

⁹ Id. at 674-75.

^{10 220} U.S. 428 (1911).

¹¹ Id. at 436.

^{12 569} F.2d 1084 (9th Cir. 1978).

¹³ Id. at 1098.

In borrowing from Judge Learned Hand (Reiner v. I. Leon Co.),¹⁴ the Court in Santa Fe listed those sign posts which may indicate non-obviousness. The sign posts are:

- 1. How long did the need exist?
- 2. How many tried to find the way?
- 3. How long did the surrounding and accessory arts disclose the means? and
- 4. How immediately was the invention recognized as an answer by those who used the new variant?¹⁵

The Preferred View

The preferred view of analyzing secondary considerations is a middle ground between the two extremes discussed above. In $U.S.\ v.$ Adams, ¹⁶ the companion case to the Graham case, the Supreme Court held that the new battery under consideration constituted an invention. The court explained "... [k]nown disadvantages in old devices which would naturally discourage the search for new inventions may be taken into account in determining obviousness." The fact that the experts in the field initially disbelieved in the invention was also considered relevant to the determination of nonobviousness.

In 1978, the Sixth Circuit required that all relevant evidence of record be considered in determining nonobviousness. Nickola v. Peterson. 18 The patented device was the combination of an upright post, electric power box, electric meter and gas meter designed to furnish gas and electricity to a mobile home. Interestingly, the court held that the patent owner's evidence of commercial success was insufficient, because only 6,000-7,000 units had been sold, there had not been a "rush to the invention," there was no waiting fortune for the inventor, there was no evidence of the total demand and extent of the device's having met that demand, no evidence of abandonment of the old products and no discussion of the success due to advertising as opposed to the merits of the device. 19

¹⁴ 285 F.2d 501 (2nd Cir. 1960).

¹⁵ See *supra* note 12, at 1098.

^{16 383} U.S. 39 (1966).

¹⁷ Id. at 52.

^{18 580} F.2d 898 (6th Cir. 1978).

¹⁹ Id. at 914.

The Ninth Circuit has recently ruled that commercial success, long-felt but unsolved needs and prior unsuccessful attempts by others are "... valid and relevant criteria in determining the level of ordinary skill in the relevant art, and therefore in determining obviousness." Sarkisian v. Winn-Proof Corp. 20

The View of the New CAFC

Before the CAFC was created, two judges on the CCPA (who are now on the CAFC) expressed their views on "secondary considerations." Judge Giles S. Rich's comments are interesting:

I do not believe the Supreme Court intended to signify anything by the term "secondary." It could equally have said "other considerations." It cited a law review note entitled "Subtests of 'Nonobviousness,' " not "secondary" tests. I suggest that in thinking about those "considerations" they be looked upon for what they factually are, circumstantial evidence of unobviousness of the highest probative value, unless there is some other explanation for the action. As a judge, if I were presented with a defense of obviousness and the evidence showed that the defendant, long knowing about a problem in his product or his manufacturing process for which he had found no solution, changed over to use his competitor's patented invention as soon as he heard of it, I would not call that evidence "secondary" and ignore it in considering his argument that it was an obvious invention. I would think as did Learned Hand (Safety Car Heating and Lighting Co. v. General Electric Co., 155 F.2d 937, 939) in 1946 that:

"In appraising an inventor's contribution to the art... the most reliable test is to look at the situation before and after it appears.... Courts, made up of laymen as they must be, are likely either to underrate, or to overrate, the difficulties in making new and profitable discoveries in fields with which they cannot be familiar; and, so far as it is available, they had best appraise the originality involved by the circumstances which preceded, attended and succeeded the appearance of the invention.... We have repeatedly declared that in our judgment this approach is more reliable than a priori conclusions drawn from vaporous, and almost inevitably self-dependent general propositions."²¹

Judge Howard T. Markey's words are directed to counsel's responsibility regarding proof of "secondary considerations":

As a teacher of courts, and as advocates of the law and not just of your client's interests, it is one of your major responsibilities, in my view, to place the so-called "secondary considerations" in perspective. To say that "commercial success without invention will not make patentability" is to

^{20 697} F.2d 1313, 1320 (9th Cir. 1983). (Opinion by Judge Markey sitting by designation)

²¹ Rich, "Laying the Ghost of the Invention Requirement," 1:501, 1:513, in NONOB-VIOUSNESS — THE ULTIMATE CONDITION OF PATENTABILITY (J. Witherspoon ed. 1978).

say that "evidence of invention without invention will not make patentability." If we substitute today's proper word, the phrase would go, "evidence of patentability without patentability will not make patentability"!

The notion that obviousness can be determined while disregarding any evidence is a jurisprudential disgrace! In every other field of law, the facts surrounding the main event, and the events occurring after the main event, are all taken into account. Only in patent law has the word "secondary," which had to refer to time and not to importance, been allowed to produce a disregard of evidence.

Let me give you a recent example. A district court opinion contained this statement: "Thus, before a court even considers whether or not there did exist a long-felt need for the purported invention, the court must determine that the combination of old elements produces a result greater than the sum of the parts." Imagine! What a Catch-22! If the court decides the result was not greater than the sum, the patent is invalid and he won't consider whether it filled a long-felt need. If he decides the result was greater than the sum, there is no need to consider the filling of a long-felt need. Either way, the "secondary considerations" disappear from the record.

Now, my friends, I wonder. Do you suppose that the winning counsel in that case returned to the court, not for a change in the result, of course, but with the respectful suggestion that the language be clarified? I would be pleasantly surprised, nay shocked to learn that he did. And yet that language lies there. If the case is appealed it may be picked up and repeated in the appellate opinion. From there it may end up in a Supreme Court opinion, or in many other circuit opinions throughout the country. Like a dead carcass, it stinks. Yet the bar has permitted it, and suffers it to desecrate the vineyard of the law. In the service we used to call that sort of thing "spitting in your mess kit." In my view, the notion that the officers of the court have no responsibility for what the court says is an idea whose time has passed!²²

Considering these views, expressed before the CAFC was created, it comes as no surprise that the CAFC's view on secondary considerations is more closely akin to the preferred view than to any other. In W. L. Gore & Assoc., Inc. v. Garlock, Inc., 23 Judge Markey had the opportunity to express the CAFC's view:

The objective evidence of nonobviousness, i.e., the "indicia" of Graham [383 U.S. 1], may in a given case be entitled to more weight or less, depending on its nature and its relationship to the merits of the invention. It may be the most pertinent, probative, and revealing evidence available to aid in reaching a conclusion on the obvious/nonobvious issue. It should when present always be considered as an integral part of the analysis.²⁴ [Emphasis added.]

Markey, "Section 103 and Responsible Advocacy," in Witherspoon, note 21 supra, at 4:301, 4:305.

²³ 721 F.2d 1540 (Fed. Cir. 1983).

²⁴ Id. at 1555.

Judge Markey stated the same position in a more general fashion in *Environmental Designs*, *Ltd. v. Union Oil Co.*:²⁵ "When a patent is challenged on the ground that the claimed invention would have been obvious, all evidence relevant to the obvious — nonobvious issue *must be considered*"²⁶ (emphasis added).

In Environmental Designs, Judge Markey cites a previous CAFC case, In Re Sernaker,²⁷ in which Judge Nichols asserted that "the 'secondary considerations' that the Supreme Court stated might be of possible utility in an obviousness determination..., also require a finding of nonobviousness if the matter be otherwise doubtful."²⁸ He goes on to say that when such evidence is presented to the Patent Office by an applicant for patent the evidence must be considered, noting "these secondary considerations... speak with unusual eloquence."²⁹ In a concurring opinion, Judge Davis stressed the importance of the secondary considerations:

For me the crucial insight is the "secondary consideration" of commercial success which... appellant has fully proved, the Solicitor has not sought to rebut and has admitted was before the Board, and the Board failed properly to consider. Under *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 86 S.Ct. 684, 693-694, 15 L.Ed.2d 545 (1966), that type of success is a relevant factor, and in this close case I think it decisive in showing nonobviousness.³⁰

In Simmons Fastener Corp. v. Illinois Tool Works,³¹ Judge Baldwin again stressed the importance of taking secondary considerations into account and stated that Graham mandated not only inquiry into the three familiar elements related to prior art, but also evidence of secondary considerations when such evidence is present.³² This is in accord with the CAFC's holdings in Connell v. Sears, Roebuck & Co.³³ and Stratoflex, Inc. v. Aeroquip Corp.³⁴ which both stressed the importance of this fourth factual inquiry under the Graham case. In Simmons the trial court's finding of invalidity of the patent in suit

²⁵ 713 F.2d 693 (Fed. Cir. 1983), cert. denied, U.S. 104 S.Ct. 709 (1984).

²⁶ Id. at 867.

^{27 702} F.2d 989 (Fed. Cir. 1983).

²⁸ Id. at 996.

²⁹ Id.

³⁰ Id. at 997.

^{31 739} F.2d 1573 (Fed. Cir. 1984).

³² Id. at 1575.

^{33 722} F.2d 1542 (Fed. Cir. 1983).

^{34 713} F.2d 1530 (Fed. Cir. 1983).

was reversed, citing W. L. Gore, supra, because of the error in excluding evidence of commercial success.

Simmons cites Stratoflex, supra, in which Judge Markey further defined the Court's view on evidence of secondary considerations:

[E]vidence rising out of the so-called "secondary considerations" must always when present be considered en route to a determination of obviousness. In re Sernaker, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983) citing In re Fielder and Underwood, 471 F.2d 640, 176 USPQ 300 (CCPA 1983), see In re Mageli et al., 470 F.2d 1380, 1384, 176 USPQ 305, 307 (CCPA 1973) (evidence bearing on issue of nonobviousness "is never of 'no moment,' is always to be considered and accorded whatever weight it may have.") Indeed, evidence of secondary considerations may often establish that an invention appearing to have been obvious in light of the prior art was not. It is to be considered as part of all the evidence, not just when the decisionmaker remains in doubt after reviewing the art. [Emphasis added.]³⁵

The principle in Stratoflex and Simmons that the evidence relating to secondary considerations must be heard and considered prior to making the obviousness determination is followed in Lindemann Maschinenfabrik GmBH v. American Hoist & Derrick Co.³⁶ In reversing the trial court's holding of patent invalidity the CAFC stressed that the evidence showed that the claimed invention accounted for 30% of the patent owner's sales worldwide. The district court discounted this evidence because the sales occurred abroad. Also the district court first found the patent invalid based on the prior art and then looked to see if the commercial success was so overwhelming as to indicate nonobviousness. The CAFC criticized both of these approaches:

The district court improperly discounted the weight due the evidence of commercial success because that success occurred abroad. A showing of commercial success of a claimed invention, wherever such success occurs, is relevant in resolving the issue of non-obviousness. Weather Engineering Corp. v. United States, 614 F.2d 281, 222 Ct.Cl. 322, 204 USPQ 41 (1980).

.... The district court correctly stated that commercial success cannot by itself establish nonobviousness. However, having concluded that the claimed invention would have been obvious from the prior art, the court looked only to see whether the showing of commercial success was so overwhelming as to overcome that conclusion. That was error. All evidence must be considered before a conclusion on obviousness is reached. Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983), Kansas Jack, Inc. v. Kuhn, 719 F.2d 1144, 219 USPQ 857 (Fed. Cir. 1983), W.L. Gore & Associates v. Garlock, Inc., 721 F.2d 1540, 220 USPQ

³⁸ 739 F.2d at 1575 citing Stratoflex, 713 F.2d at 1538. See also, Jones v. Hardy, 727 F.2d 1524, 1530-31 (Fed. Cir. 1984); Raytheon Co., v. Roper Corp., 724 F.2d 951, 961 (Fed. Cir. 1983); Medtronic, Inc. v. Cardiac Pacemakers, Inc. 721 F.2d 1563, 1575 (Fed. Cir. 1983).

³⁶ 730 F.2d 1452 (Fed. Cir. 1984).

303, 314 (Fed. Cir. 1983). The commercial success here shown is evidence that the claimed invention was not obvious to those who paid % of a million dollars for each machine to escape the previously perceived need for pretreatment of massive scrap.³⁷

The CAFC also based its reversal in *Lindemann* on the trial court's failure to consider proper unchallenged evidence of unexpected results achieved by the patented invention. Noting that the patent statute does not *require* unexpected results for patentability, the court states that "evidence of unexpected results may be strong support for a conclusion of nonobviousness." ³⁸

The CAFC's focusing on the importance of secondary considerations is tempered by the extreme care with which evidence of such considerations is treated in particular cases. In Simmons the Court, citing Stratoflex, supra, stated that a nexus must be established between the merits of the claimed invention and the evidence of secondary considerations in order for the evidence to be given substantial weight in making an obviousness determination. The trial court had found this nexus to exist, but, as already noted, it then proceeded to ignore the evidence of commercial success.

Attempts were made to establish the requisite nexus between commercial success, long-felt need and the claimed invention in Vandenberg v. Dairy Equip. Co.³⁹ In contesting the trial court holding of invalidity, the appellants contended that insufficient weight was given to the secondary considerations. The CAFC upheld the trial court on this point, that although the appellants' device had enjoyed market place acceptance, there was no showing of:

- (a) A comparison of sales of the patented device to sales of the previous unpatented model of the device; or
- (b) the percentage of the market attributable to the patented device.⁴⁰

The court also noted that whatever success the patented device enjoyed could be attributed to the increased use of the basic system of which the device was a component rather than to the alleged novel features of the device itself.⁴¹ The contention regarding long-felt need was summarily disposed of:

³⁷ Id. at 1461.

³⁸ Id.

^{39 740} F.2d 1560 (Fed. Cir. 1984).

⁴⁰ Id. at 1567.

⁴¹ Id.

A nexus must be established between the merits of the claimed invention and the evidence of commercial success before that issue becomes relevant to the issue of obviousness. Solder Removal, 582 F.2d at 637, 199 USPQ at 137; In re Felton, 484 F.2d 495, 501, 179 USPQ 295 (CCPA 1973). The appellants have failed to show such a nexus.

As for long-felt need, the evidence is even less substantial. There is no showing that the industry was very concerned with the problem involved here.42 We find no clear error in the district court's finding of no long-felt need.

Although secondary considerations can indicate nonobviousness, they can also be misleading. Hence, they must be carefully scrutinized. For example, in EWP Corp. v. Reliance Universal Inc., 43 the patent owner had an on-going successful licensing program; but the examiner in the Patent and Trademark Office had not considered prior art teaching the very technique essential to the claimed invention. Regarding the licensing program the CAFC stated that these "... programs are not infallible guides to patentability."44

The CAFC explained that a licensing program's success might be based on mutual benefit to the licensed group or because of the decision that taking a license is cheaper than litigation, or for other reasons not related to the nonobviousness of the claimed subject matter.45

In In Re Deblauwe, 46 the patent applicants appealed the affirmance by the Patent and Trademark Office Board of Appeals of the examiner's rejection of pending claims. With respect to certain claims, the examiner had neither challenged nor given any weight to the applicants' assertions of unexpected results. Regarding evidence of unexpected results, the Federal Circuit stated that:

- (a) Unexpected results must be shown by factual evidence.
- (b) A patent specification's mere argument or conclusory statements are not sufficient.
- (c) The results must be shown as superior to the results achieved with other devices or processes.
- (d) The claimed invention must be compared to the closest prior art to rebut a case of prima facite obviousness.

^{43 755} F.2d 898 (Fed. Cir. 1985).

⁴⁵ Id. at 907-08.

^{46 736} F.2d 699 (Fed. Cir. 1984).

The applicants' assertion of unexpected results were challenged for the first time on appeal in the Solicitor's brief on the basis that there was "no objective evidence" of the result asserted, much less that it was unexpected.⁴⁷ In order to provide the applicants the opportunity to present proper evidence, the CAFC remanded the case, since neither the Board nor the examiner had given the applicants notice that there was no objective evidence of unexpected results.

In another CAFC case dealing with a prima facie case of obviousness in a pending patent application, secondary considerations were again an issue. In *In Re Piasecki*, ⁴⁸ the CAFC rejected the view that rebuttal evidence related to secondary considerations was *ipso facto* insufficient to rebut a prima facie case of obviousness. The CAFC stated that not only can evidence of secondary considerations be sufficient to rebut a prima facie case of obviousness, but also that the examiner must "consider all evidence anew" once the prima facie case has been dissipated by rebuttal evidence of adequate weight.

Conclusion

Secondary considerations include the following:

- "1. Character, condition and progress of the art up to the time of the alleged invention.
 - The nature of the want supplied and the extent to which previous inventions had satisfied this want. Long-felt want.
 - 3. Proof of prior unsuccessful efforts of others.
- 4. The final step turning failure to success.
- 5. Proof of accomplishing a result never before attempted or thought of.
- 6. Materials used in a manner never before employed.
- 7. Greater efficiency, greater economy, or other advantages over previously used method or device.
- 8. Prompt and general adoption with increased efficiency or productivity. Commercial success.
- 9. New combination of old elements producing a new and beneficial result."50

⁴⁷ Id. at 704.

^{48 745} F.2d 1468 (Fed. Cir. 1984).

⁴⁹ Id. at 1472.

⁵⁰ Castellan, "The Shifting Sands of Skill and Ingenuity," 25 J. Pat. Off. Soc'y 416, 424-425 (1946).

106 IDEA - The Journal of Law and Technology

The CAFC's treatment of evidence of secondary considerations illustrates that:

- (a) The CAFC is responsive to such evidence, but it will be very carefully scrutinized;
- (b) Such evidence *must* be considered when properly proven, and it must be considered *prior* to the ultimate determination on obviousness; and
- (c) Such evidence can be very persuasive, but it is not an infallible guide.

CURRENT LITERATURE IN LAW/SCIENCE: POLICY AND INTELLECTUAL AND INDUSTRIAL PROPERTY

COMPILED BY JUDITH GIRE* AND LISA A. MITTEN**

INDUSTRIAL/INTELLECTUAL PROPERTY — UNITED STATES

- McClure, Carma and Michael D. Sher. Evaluating Claims of Software Copying Through Data Analysis, 3 SOFTWARE PROTECTION 9 (No. 2 1984).
- Rosen, Dan. A Common Law for the Ages of Intellectual Property, 38 U. MIAMI L. REV. 769 (1984).
- Scott, Michael D. Software Protection: Prognosis of the Future, 2 SOFTWARE PROTECTION 2 (No. 8 1984).
- U.S. Congress. House. Committee on the Judiciary. SEMICON-DUCTOR CHIP PROTECTION ACT OF 1984: REPORT. Washington, D.C.: U.S.G.P.O., 1984, 41 p. (Y 1.1/8:98-781/corr.).

INDUSTRIAL/INTELLECTUAL PROPERTY — BY COUNTRY

- Aleksandrov, Aleksand'r. Edno Mnenie za Pravata na Izobretatelite = Une Opinion sur les Droits des Inventeurs, 36 IZOBRETA-TEL'STVO I RATSION-ALIZATORSTVO 28 (No. 1 1984).
- Bondarenko, N. G. Pravovaia Okhrana Izobretennii v. Obrasti Ekologii = Protection Juridique des Inventions dans le Domaine de L'Ecologie, VOPROSY IZOBRETATEL'STV 25 (No. 3 1984).

^{*}J.D. Franklin Pierce Law Center, A.M.L.S., Michigan; Law Librarian, Franklin Pierce Law Center.

^{**}M.L.S. University of Pittsburgh; Cataloger/Information Scientist, Franklin Pierce Law Center.

- Common Law Institute of Intellectual Property Ltd. PIRACY AND COUNTERFEITING OF INDUSTRIAL PROPERTY AND COPYRIGHT. London: C. Clore House, 1983. 143 p.
- Enatsu, Hiroshi. The Law of Employed Inventors in Denmark, 29 J. OF THE JAPANESE GROUP, A.I.P.P.I. 28 (No. 5 1984).
- Floridia, Giorgio. L'Instituto Nazionale Della Proprietà Industriale e la Riforma del Sistema dei Brevetti, 32 RIVISTA DI DIRITTO IN-DUSTRIALE 579 (1983).
- Grossfeld, Bernhard. Computer und Recht, 30 JURISTENZEITUNG 696 (1984).
- INDUSTRIAL PROPERTY FOR SOUTH PACIFIC COUNTRIES: SUVA, FIJI, JUNE 16, 17, 20, 21 AND 22, 1983. Geneva: World Intellectual Property Organization, 1983.
- Industrial Property Organization for English-Speaking Africa (ESARIPO). TEXTS RELATING TO THE PROTOCOL ON PATENTS AND INDUSTRIAL DESIGNS WITHIN THE FRAMEWORK OF THE INDUSTRIAL PROPERTY ORGANIZATION FOR ENGLISH-SPEAKING AFRICA (ESARIPO). Harare: ESARIPO, 1984.
- Institute for Intellectual Property and Market Law. SWEDISH IN-TELLECTUAL PROPERTY AND MARKET LEGISLATION: COLLECTION OF STATUTORY TEXTS. Stockholm: The Institute, 1984, 1981 p.
- Intellectual Property Notes: Computer Software, 14 QUEENSL. L. SOC'Y J. 203 (Oct. 1984).
- Leavy, James. Latin Software Licensing, 19 LES NOUVELLES 160 (No. 3 1984).
- Pachón Muñoz, Manual. MANUEL DE PROPRIEDAD INDUSTRIAL. Bogotá: Temis, 1984.
- Puri, K. K. Design Protection in Australia, 13 VICT. U. WELL. L. REV. 171 (May 1983).
- Van Benthem. The Work of the EPO to Date: A Review, 34 REVUE ET BULLETIN DE LA FÉDÉRATION INTERNATIONALE DES CONSEILS EN PROPRIÉTÉ INDUSTRIELLE 127 (1984).
- Weston, W. Registered Inventions, 13 CIPA, J. OF THE CHAR-TERED INSTITUTE OF PATENT AGENTS 370 (1984).

World Intellectual Property Organization. GUIDE ON THE IN-DUSTRIAL PROPERTY ACTIVITIES OF ENTERPRISES IN DE-VELOPING COUNTRIES. Geneva: WIPO, 1983. 31 p.

PATENTS — UNITED STATES

- Ahmann, V. PROTECTING TECHNOLOGY ABROAD THE EUROPEAN PATENT OFFICE AN EASIER MEANS FOR AMERICAN APPLICANTS TO OBTAIN PATENT PROTECTION IN EUROPE. Los Angeles: Electronic Conventions, 1984. 468 p.
- Aisenberg, Irwin M. The Peril of Election Under 37 C.F.R. 1.786), 25 IDEA 205 (1985).
- Becker, S. To Patent or Not to Patent Trends in Software Protection, 18 COMPUTER-WORLD 27 (26 Nov. 1984).
- Brunsvold, Brian G. Royalty Payments Beyond Term of Patent Held Valid, 7 LICENSING L. & BUS. REP. 193 (Nov. Dec. 1984).
- Cione, Thomas J. Patent Law's Experimental Use Doctrine: An Analysis of Court Decisions Including Cases of the United States Court of Appeals for the Federal Circuit, 25 IDEA 225 (1985).
- Coolley, Ronald B. Patent Jury Issues: What the Federal Circuit Has Done and Will Do in Comparison With Standards of Review Established by the Other Circuit Courts, 67 J. PAT & TRADEMARK OFF. SOC'Y. 3 (1985).
- Costantino, Mark A. and Daniel L. Master, Jr. The Seventh Amendment Right to Jury Trial in Complex Civil Litigation: Historical Perspectives and a View From the Bench, 12 AIPLA Q. J. 279 (1984).
- Hofer, Roy E. The CAFC and Fact/Law Questions in Patent Cases: The Jury's Role Burgeons! 12 AIPLA Q. J. 295 (1984).
- Hulbert, Bradley J. De-Vexing Prejudgment Interest Awards in Patent Cases At What Point Interest? 67 J. PAT & TRADEMARK OFF. SOC'Y. 103 (1984).
- Irving, Thomas L. Preliminary Motions Under Rule 633, 67 J. PAT. & TRADEMARK OFF. SOC'Y. 128 (1985).
- Lee, Jerome G. The Law Fact Distinction From Trial By Ordeal to Trial By Jury, 12 AIPLA Q. J. 288 (1984).
- Leonard, Will E. and Roger D. Taylor. Section 337: A Familiar Road Into Strange Country, 12 AIPLA Q. J. 336 (1984).

- Moir, Brian R. Licensing of AT&T Patents After the Divestiture: Some Less Publicized But Significant Changes, 7 LICENS-ING L. & BUS. REP. 171 (Sept. - Oct. 1984).
- Morse, P. H. N. Patent Law Upholds State Trade-Secret Laws to Protect Technology from Illegal Use, 29 EDN 442 (15 Nov. 1984).
- Narin, Francis and Mark P. Carpenter and Patricia Woolf. Technological Performance Assessments Based on Patents and Patent Citations, EM-31 IEEE TRANS ENG. MANAGE. 172 (Nov. 1984).
- Osborne, Richard L. Going to Market: Tax Considerations For Inventors and Programmers in the Computer Industry, 67 J. PAT. & TRADEMARK OFF. SOC'Y. 149 (1985).
- Pravel, B. R. Issues of Law and Fact at Appellate Level, 12 AIPLA Q. J. 323 (1984).
- Pressman, D. Patent Your Inventions Properly to Avoid Legal Pitfalls, 29 EDN 337 (Oct. 4, 1984).
- Standard Antitrust Analysis and the Doctrine of Patent Misuse: A Unification Under the Rule Of Reason, 46 U. PITTSBURGH L. REV. 209 (1984).
- U.S. General Accounting Office. MAJOR FEDERAL RESEARCH AND DEVELOPMENT AGENCIES ARE IMPLEMENTING THE PATENT AND TRADEMARK AMENDMENTS OF 1980: REPORT TO CONGRESS. Washington, D.C.: U.S.G.P.O., 1984. 45p. (GA 1.13:RCED-84-26)
- Vincent, D. The Role and Functions of Patents as Tools of Technology Transfer, 23 INDUS. PROP. 256 (1984).
- Walker, Richard D. Patents as Information: An Unused Resource, 10 IFLA J. 175 (1984).
- Walterscheid, Edward C. The Ever Evolving Meaning of Prior Art (Part 9), 67 J. PAT. OFF. SOC'Y. 33 (1985).

PATENTS — INTERNATIONAL

- Cade, George N. European Patent Convention: Refund of Appeal Fees Under Rule 67, 13 CIPA 255 (1984).
- Catanese, Adrienne. Paris Convention, Patent Protection, and Technology Transfer, 3 U. INT'L. L. J. 209 (1985).

- Creel, Thomas C. Patent Systems and Their Role in the Technological Advance of Developing Nations, 10 RUTGERS COMPUTER & TECHN. L. J. 255 (1984).
- Hearn, Patrick. Patent Licensing in the EEC: III, 128 SOLICITOR'S J. 559 (1984).
- Patent Cooperation Treaty, 13 CIPA, J. OF THE CHARTERED INSTITUTE OF PATENT AGENTS 383 (1984).
- World Intellectual Property Organization. INTERNATIONAL PATENT CLASSIFICATION.: 4th ed. Munich: C. Heymann, 1984. 9 vols.

PATENTS — BY COUNTRY

- Ahmann, V. PROTECTING TECHNOLOGY ABROAD THE EUROPEAN PATENT OFFICE AN EASIER MEANS FOR AMERICAN APPLICANTS TO OBTAIN PATENT PROTECTION IN EUROPE. Los Angeles: Electronic Conventions, 1984. 468 p.
- Cauqui Perez, Arturo. La Innovación en la Empresa: La Legislación Española Sobre Patentes y su Evolucion Deseable, REVISTA DE DERECHO PRIVADO 278 (March 1984).
- Eremenko, V.I. Priàmoe i Kosvennoe Narushenie Patenta vo Frantŝuzskom Prave = Contrefaçon Directe et Indirecte de Brevets en Droit Français, VOPROSY IZOBRETATEL'STVA 21 (No. 8 1984).
- Falck, Kurt von. Freiheit und Bindung des Patentverletzungsrichters, 86 GEWERBLICHER RECHTSSCHUTZ UND URHEBERRECHT 392 (1984).
- Gall, Gunter. EUROPEAN PATENT APPLICATIONS: QUESTIONS AND ANSWERS. London: Oyez Longman, 1984. 231 p.
- Geisler, W. Components of the Contents of Claims in Soviet Russian Patent Specifications, 30 WISS. Z. TECH. HOCHSCHULE 163 (No. 6 1984).
- Hearn, Patrick. Patent Licensing in the EEC II, 128 SOLICITOR'S J. 542 (1984).
- Hemmerling, J. The New Patent Law of the German Democratic Republic, 23 INTELL. PROP. 252 (1984).
- Hsia, Tao-tai. CHINA'S NEW PATENT LAW AND OTHER RE-CENT LEGAL DEVELOPMENTS: REPORT. Washington, D.C.: U.S.G.P.O., 1984. 67 p. (Y 4.En 2/3:98-Z)

- Ishida, Takashi. Patents: Japanese Style, 14 PAT. & LICENSING 9 (No. 3 1984).
- Janke, Lothar. Hauptrichtungen der Entwicklung der Patent-information in der DDR, 31 INFORMATIK 2 (No. 4 1984).
- Kuznetsova, T. O. and L. V. Saboda. O Sootnoshenii Formuly i Opisaniia Izobretenniia = On Relationship of Patent Claims and Specification of an Invention, VOPROSY IZOBRETATEL'STVA 37 (No. 3 1984).
- McAbee, Michael. Marginal Relief Coming for Bottleneck in Patent, Trademark Processing, 6 E. ASIAN EXECUTIVE REP. 11 (Sept. 15 1984).
- Marcus, Martin J. Review of Current Canadian Patent Law and Practice, ECHANGES ASPI 1 (No. 16 1984).
- Matter, H. Patent Informationen als Hilfsmittel der Innovationsberatung, 35 NACHRICHTEN FÜR DOKUMENTATION 93 (No. 2 1984).
- Tsentralna Nauchno-Tekhnicheska Biblioteka. KATALOG NA LITERATURATA V TS N T B PO PATENTNO I IZOBRETA-TELSKO DELO. Sofia: Biblioteka, 1983. 6 Vol.

COPYRIGHT — UNITED STATES

- Altman, James. Copyright Protection of Computer Software, 5 COM-PUTER L. J. 413 (1985).
- Baldy, Anderson L. Computer Copyright Law: An Emerging Form of Protection for After Apple v. Franklin, 5 COMPUTER L. J. 233 (1984).
- Boyden, P. C. Computer Software Copyright, 11 J. OF COMPUTER-BASED INSTRUCTION 125 (Autumn 1984).
- Christian, C. Computers in Publishing Copyright Law Becomes Even Murkier, COMPUTER WEEKLY 23 (4 Oct. 1984).
- Colby, Richard. The First Sale Doctrine The Defense That Never Was? 32 J. COPYRIGHT SOC'Y. 77 (1984).
- Copyright Law and Computer Software: The Third and Ninth Circuits Take Another Bite of the Apple, 49 ALB. L. REV. 170 (1984).
- COPYRIGHT LAW SYMPOSIUM THIRTY-ONE (1981). Nathan Burkan Memorial Competition; Sponsored by the American Society of Composers, Authors and Publishers. New York: Columbia U. Press, 1984. XVI 257 p.

- Fuller, Grover F. Commentary New Legislation: Copyright Protection for Semiconductor Chip Masks, 25 IDEA 199 (1985).
- Gerson, Janice and Daniel J. Levinson. Works Created in the Course of Employment and Works Made for Hire: A Comparison Between Canadian and U.S. Copyright Laws, 3 REVUE CANADIENNE DU DROIT D'AUTEUR 16 (No. 3, 1983).
- Giller, Richard C. Roms, Rams, and Copyright: The Copyrightability of Computer Chips, 14 SW. U. L. REV. 685 (1984).
- Harper & Roe, Publishers v. Nation Enterprises: Emasculating the Fair Use Accommodation of Competing Copyright and First Amendment Interests, 79 NW. U. L. REV. 587 (1984).
- Haris, John R. A Market-Oriented Approach to the Use of Trade Secret or Copyright Protection (Or Both?) for Software, 25 JURIMETRICS J. 147 (1985).
- Hornick, John F. Copyright Licensing Considerations (Part 1), 7 LI-CENSING L. & BUS. REP. 190 (Nov. - Dec. 1984).
- Johnson, Virginia. Copyright Protection For Computer Flow Logic and Algorithms, 5 COMPUTER L. J. 257 (1984).
- Johnson, William R. The Economics of Copying, 93 J. POL. ECON. 158 (1985).
- Kane-Ritsch, Julie. The Videotape Rental Controversy: Copyright Infringement or Market Necessity? 18 J. MAR L. REV. 285 (1985).
- Kutten, L. J. Can Copyrights Protect All Forms of Software?, 17 MINI-MICRO SYS. 249 (Sept. 1984).
- Kwall, Roberta Rosenthal. Copyright and the Moral Right: Is an American Marriage Possible? 38 VAND. L. REV. 1 (1985).
- Mandelbaum, James. <u>The Nation</u>: Overprotection of the First Amendment in Fair Use Analysis, 32 J. COPYRIGHT SOC'Y. 138 (1984).
- Marsteller, Thomas F. and Robert L. Tucker. Copyrighting Trade Secrets Under the 1976 Copyright Act, 25 IDEA 211 (1985).
- Reilly, Jerrold B. The Manufacturing Clause of the U.S. Copyright Law: A Critical Appraisal of Some Recent Studies, 32 J. COPY-RIGHT SOC'Y. 109 (1984).
- Schwartz, Mortimer D. and John C. Hogan. Copyright Law and the Academic Community: Issues Affecting Teachers, Researchers, Students and Libraries, 17 U.C.D.L. REV. 1147 (1984).
- Semiconductor Chip Protection: Changing Roles for Copyright and Competition, 71 VA. L. REV. 249 (1985).

- Shipley, David E. and Jeffrey S. Hay. Protecting Research: Copyright, Common-Law Alternatives, and Federal Preemption, 63 N.C.L. REV. 125 (Nov. 1984).
- Sinclair, M. B. W. Fair Use Old and New: The <u>Betamax</u> Case and Its Forebears, 33 BUFFALO L. REV. 269 (1984).
- Tillett, Beverly S. Pending Cases Testing the Copyright Holder's Exclusive Right of Public Performance, 18 J. BEV. HILLS B. A. 127 (Spring 1984).
- United States. Copyright Office. SOFTWARE PROTECTION: THE U.S. COPYRIGHT OFFICE SPEAKS ON THE COMPUTER/COPYRIGHT INTERFACE. New York: Law & Business, 1984. 482 p.
- Wilkerson, Daniel J. The Copyright Act of 1976 Served on a Satellite Dish, 21 WILLAMETTE L. REV. 79 (1985).

COPYRIGHT — INTERNATIONAL

- Keplinger, Michael S. Authorship in the Information Age: Protection for Computer Programs Under the Berne and Universal Copyright Conventions, COPYRIGHT 119 (March 1985).
- McDonald, Dennis D., Eleanor J. Rodger and Jeffrey L. Squires. IN-TERNATIONAL STUDY OF COPYRIGHT OF BIBLIOGRAPHIC RECORDS IN MACHINE/READABLE FORM: A REPORT PRE-PARED FOR THE INTERNATIONAL FEDERATION OF LI-BRARY ASSOCIATIONS AND INSTITUTIONS. München; New York: K. G. Saur, 1983. 149 p.
- Polansky, Barbara Friedman. International Recommendations for Handling Copyright Questions About Computer-Generated Works: What are Our Concerns? 23 J. OF CHEMICAL INFORMA-TION & COMPUTER SCI. 168 (No. 4 1983).

COPYRIGHT — BY COUNTRY

- Australian Copyright Act 1968 and Satellite, 2 COPYRIGHT REP. 4 (No. 3 1984).
- Blomqvist, Jørgen. Copyright Protection of Photos?, NIR, NORDISKT IMMATERIELLT RÄTTSSKYDD 162 (No. 2 1984).

- Chang, Judy and Josephine Wang. Copyright Update: Draft Law; Rental of Pirated Items; Software Protection, 6 E. ASIAN EXECUTIVE R. 18 (Dec. 15, 1984).
- Christie, Andrew. Copyright Protection For Ideas: An Appraisal of the Traditional View. 10 MONASH U. L. REV. 175 (1984).
- Gerson, Janice and Daniel J. Levinson. Works Created in the Course of Employment and Works Made for Hire: A Comparison Between Canadian and U.S. Copyright Laws, 3 REVUE CANADIENNE DU DROIT D'AUTEUR 16 (No. 3 1983).
- Glover, Rupert Granville. Pirating of Work and the Copyright Act 1962: A Problem, N.Z.L.J. 269 (Aug. 1984).
- Kahlen, H. Copyright Protection for Software, MIKROCOMPUTER 52 (Nov. 1984).
- Karnell, Gunnar. Copyright to Computer Programs, NIR, NORDISKT IMMATERIELLT RÄTTSSKYDD 133 (No. 2 1984).
- Phillips, Jeremy. Crown Copyright: Copying of Secret Documents: Ownership of Copies, 29 J. BUS. L. 364 (1984).
- Puri, K. K. Fair Dealing With Copyright Material in Australia and New Zealand, 13 VICT. U. WELL. L. REV. 277 (Sept. 1983).
- Schwinghammer, Marie. Ideas, Reputation and Copyright: A Guide to the Law, BULL.-AUSTRALIAN COPYRIGHT COUNCIL 1 (No. 48 1984).
- Spurgeon, C. Paul. Your Musical Work: Understanding the Rights Inherent in a Copyright, THE CANADIAN COMPOSER 24 (Nov. 1984).

TRADEMARKS — UNITED STATES

- Germain, Kenneth B. and Steven M. Weinberg. The Thirty-Seventh Year of Administration of the Lanham Trademark Act of 1946, 74 TRADEMARK REP. 469 (1984).
- Jones, Cynthia B. Champions of Confusion in Trademark Law: <u>Champion Products, Inc. v. University of Pittsburgh</u>, 4 J. L. & COM. 493 (1984).
- Keating, W. J. Promotional Trademark Licensing: A Concept Whose Time Has Come, 89 DICK L. REV. 363 (1985).
- Sutton, John P. The Fact-Law Dichotomy in Trademark Cases, 12 AIPLA Q. J. 310 (1984).

U.S. General Accounting Office. MAJOR FEDERAL RESEARCH AND DEVELOPMENT AGENCIES ARE IMPLEMENTING THE PATENT AND TRADEMARK AMENDMENTS OF 1980: REPORT TO CONGRESS. Washington, D.C.: U.S.G.P.O., 1984. 45 p. (GA 1.13:RCED-84-26)

TRADEMARKS — INTERNATIONAL

Joliet, Rene. Trademark Licensing Agreements Under the EEC Law of Competition, 5 NW. J. INT'L. L. & BUS. 755 (1983-84).

TRADEMARKS — BY COUNTRY

- COMPARATIVE STUDY OF TRADEMARK LEGISLATION AND PRACTICE IN AMERICA. Buenos Aires: Asociación Interamericana de la Propriedad Industrial, 1984. 188 p.
- Dobrev, Gospodin. Turgovskata Marka V Soŝialisticheskoto Obshchestvo = La Marque de Commerce dans la Société Socialiste, 36 IZOBRETATEL'STVO I RATSIONALIZATORSTVO 14 (No. 2 1984).
- Enregistrement International des Marques, MUWASSAFAT 4 (No. 4 1984).
- McAvee, Michael. Marginal Relief Coming for Bottleneck in Patent, Trademark Processing, 6 E. ASIAN EXECUTIVE REP. 11 (Sept. 15, 1984).
- Molijn, H. Effect of EC Draft TM Law, 19 LES NOUVELLES 124 (No. 3 1984).
- Thrierr, Alain. Trade Mark Counterfeiting, NIR, NORDISKT IM-MATERIEUT RÄTTSSKYDD 187 (No. 2 1984).

TRADE SECRETS — UNITED STATES

- Harris, John R. A Market-Oriented Approach to the Use of Trade Seccret or Copyright Protection (or Both?) for Software, 25 JURIMET-RICS J. 147 (1985).
- Marsteller, Thomas F. and Robert L. Tucker. Copyrighting Trade Secrets Under the 1976 Copyright Act, 25 IDEA 205 (1984).
- Morse, P. H. N. Patent Law Upholds State Trade-Secret Laws to Protect Technology from Illegal Use, 29 EDN 442 (15 Nov. 1984).

- Trade Secret Litigation: Some Fundamentals, 2 SOFTWARE PROTECTION 8 (No. 8 1984), 3 SOFTWARE PROTECTION 4 (No. 1 1984).
- U.S. Congress. House. Committee on Energy and Commerce. Sub-committee on Oversight and Investigations. UNFAIR FOREIGN TRADE PRACTICES: STEALING AMERICAN INTELLECTUAL PROPERTY: IMITATION IS NOT FLATTERY: REPORT. Washington, D.C.: U.S.G.P.O., 1984. 62 p. (Y 4.En 2/3:98-V)
- Watson, J. H., Jr. Software Protection Begins with Computer Industry 'Trade Secrets', 22 DATA MGMT. 43 (Sept. 1984).

TRADE SECRETS — BY COUNTRY

Greenwood, A. P. Trade Secrets - Discovery Fielder Gillespie Limited - Petition No. 235-1983, 14 QUEENSL. L. SOC'Y J. 205 (Oct. 1984).

LAW, SCIENCE AND TECHNOLOGY — UNITED STATES

- Bodner, John, et al. <u>Litton Versus AT&T</u>: Technology in Litigation, 7 COM. & L. 27 (1985).
- FEDERAL TECHNOLOGY TRANSFER, ONLINE: A REFERENCE GUIDE FOR SEARCHING GOVERNMENT INVENTIONS & NTIS TECH. NOTES. Prepared by U.S. Department of Commerce, National Technical Information Service, Center for the Utilization of Federal Technology. Springfield, VA: The Center, 1983. 36 p. (C 51.8:T22/2)
- Nagel, Stuart S. Bibliography on Decision Science Applied to Law Practice, 25 JURIMETRICS J. 197 (1985).
- Nycum, Susan H. ... et al. Law and Technology: Emerging Issues and How the Law School Should Deal With Them, 19 STAN. LAW. 33 (Fall 1984).
- THE PROCESS OF TECHNOLOGICAL INNOVATION: REVIEWING THE LITERATURE. Productivity Improvement Research Section, Division of Industrial Science and Technological Innovation, National Science Foundation, 1983. 264 p. (NS 1.2:T 22/22)
- U.S. Congress. House. Committee on Energy and Commerce. Special Subcommittee on U.S. Trade With China. U.S. TECHNOLOGY TRANSFER TO CHINA: HEARING SEPTEMBER 27, 1983. Washington, D.C.: U.S.G.P.O., 1984. 76 p. (Y 4.En 2/3:98-75)

- U.S. Congress. House. Committee on Science and Technology. Sub-committee on Science, Research, and Technology. H.R. 5003, THE UNIFORM SCIENCE AND TECHNOLOGY RESEARCH AND DEVELOPMENT ACT: HEARINGS, May 15, 16, 1984. Washington, D.C.: U.S.G.P.O., 1984. 197 p. (Y 4.SCI 2:98/6)
- U.S. Congress. Office of Technology Assessment. TECHNOLOGY, INNOVATION, AND REGIONAL ECONOMIC DEVELOPMENT. Washington, D.C.: U.S.G.P.O., 1984. 167 p. (Y 3.T 22/2:2 T 22/10)
- U.S. Congress. Office of Technology Assessment. TECHNOLOGY TRANSFER TO THE MIDDLE EAST. Washington, D.C.: U.S.G.P.O., 1984. 612 p. (Y 3.T 22/2:2T22/13)
- U.S. Congress. Senate. Committee on Commerce, Science, and Transportation. Subcommittee on Science, Technology, and Space. ROLE OF TECHNOLOGY IN PROMOTING INDUSTRIAL COMPETITIVENESS: HEARINGS. Washington, D.C.: U.S.G.P.O., 1983- v. (Y4.C73/7:S.hrg.98-259/pt.2)
- Wilson, David A. National Security Control of Technological Information, 25 JURIMETRICS J. 109 (1985).

LAW, SCIENCE AND TECHNOLOGY — INTERNATIONAL

- Catanese, Adrienne. Paris Convention, Patent Protection, and Technology Transfer, 3 B.U. INT'L. L. J. 209 (1985).
- Denys, S. Antitrust and Intellectual Property Rights in International Technology Transfer, IN PROCEEDINGS, INTERNATIONAL CONGRESS ON TECHNOLOGY & TECHNOLOGY EXCHANGE (ICTTE '84) 8-10 OCTOBER 1984. Pittsburgh, PA: International Technology Institute.
- Mattice, Alice L. and Richard O. Cunningham. High Technology Imports and the U.S. Countervailing Duty and Antidumping Laws, 10 RUTGERS COMPUTER & TECH. L. J. 189 (1984).
- Schwab, A. J., W. J. Smith and T. C. Wettach. Law and Technology Transfer, IN PROCEEDINGS, INTERNATIONAL CONGRESS ON TECHNOLOGY & TECHNOLOGY EXCHANGE (ICTTE '84) 8-10 OCTOBER 1984. Pittsburgh, PA: International Technology Institute.
- A Select Bibliography on Technology and International Trade, 10 RUTGERS COMPUTER & TECH. L. J. 341 (1984).

- Sharif, Nawaz. MANAGEMENT OF TECHNOLOGY TRANSFER AND DEVELOPMENT. Bangalore: UNESCAP; Regional Centre for Technology Transfer, 1983.
- Symposium on International Law & Technology, 10 RUTGERS COMPUTER & TECH. L. J. 183 (1984).
- U.S. Congress. House. Committee on Foreign Affairs. Subcommittee on International Security and Scientific Affairs. OVERVIEW OF INTERNATIONAL SCIENCE AND TECHNOLOGY POLICY: HEARINGS, AUGUST 2, 3 AND SEPTEMBER 21, 1983. Washington, D.C.: U.S.G.P.O., 1984. 439 p. (Y 4/F76/1:In8/64).

LAW, SCIENCE AND TECHNOLOGY — BY COUNTRY

- Aspects Généraux de Quelques Contrats de Transfert de Technologie, MUWASSAFAT 8 (No. 4&5 1984).
- JAPANESE SCIENTIFIC AND TECHNICAL INFORMATION IN THE UNITED STATES: WORKSHOP PROCEEDINGS. Edited by Reginald B. Gillmor and Richard J. Samuels; Sponsored by Department of State and the National Technical Information Service. Washington, D.C.: Dept. of State, 1983. 165 p. (S1.2:J27/10)

COMMENTARY

I. Reexamination

Ex parte Chicago Rawhide Manufacturing Company, 226 USPQ 438 (PTO Bd. App. 1984)

The appellants questioned the propriety of the entire reexamination proceeding on the ground that it was improper to subject the patent to a reexamination procedure based upon the Baney patent since that patent was considered by the PTO prior to the granting of the here involved patent. During the prosecution of the here involved patent, the Board of Appeals reversed the then outstanding rejection based upon the same evidence now being relied upon in support of the current rejection. The appellants based their position on an analogy to the legal doctrine of res judicata or "law of the case." Appellants urged that the Examiner had no authority, in effect, to overrule the decision of the Board of Appeals, pursuant to which decision the patent initially issued.

It seems that the Baney reference had been applied only to claims which were subsequently cancelled and had not been applied to claims on appeal to the Board of Appeals. The Board of Appeals, therefore, had not overruled the rejection based upon Baney.

The mere reliance on a reference to evidence the obviousness of a particular feature of a claim pending during the prosecution of an application prior to the issuance of a patent, which claim is cancelled prior to the granting of the patent, is not sufficient to justify a holding that "a substantial new question of patentability affecting" a claim of a patent has not been raised by the citation of that patent. The public interest may demand a finding that "a substantial new question of patentability affecting" a patent claim has been raised where a reference cited during prosecution of the patent is presented and viewed in a different light than it was considered during the prosecution of the application which issued as a patent. The public interest in valid patents intended to be served by the patent reexamination sections of the patent laws cannot be disregarded where a reasonable new interpretation of a reference disclosure is presented for the first time via a request for reexamination. This is especially true where, as here, the reference has previously been considered in a secondary manner for a very limited purpose.

122

The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not, by itself, sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of the appellant's specification, to make the necessary changes in the reference device. The Examiner has not presented any evidence to support the conclusion that a worker in this art would have had any motivation to make the necessary changes in the Baney device to render the here claimed device unpatentable.

The fact that the PTO Board of Appeals went out of its way to consider this reference and still held the claims to be patentable thereover may well have had a strengthening effect on the patent grant. Unfortunately, it also had a demeaning effect on the competence and expertise that is ordinarily attributed to Examiners.

Examiners are regarded as experts in the art and experts in applying art to claims within the scope of their expertise. Once an Examiner considers a reference in connection with any claim in the prosecution of a specific application, his failure to apply that reference against other claims should create a collateral estoppel situation. The Examiner should be charged with full knowledge of what is disclosed in that reference and its applicability to subject matter disclosed and claimed in the application being examined.

II. Damages in Patent Cases

Great Northern Corporation v. Davis Core & Pad Company, Inc., 226 USPQ 540 (Georgia 1985)

Even though this case is one decided at the trial court level, it serves as a warning to those who flagrantly show their disrespect for patents granted by the PTO. 35 U.S.C. 284 allows the court to increase the plaintiff's damages up to three times the amount found or assessed, together with interest and costs. Although the court has to wait until a determination of damages in the case to assess interest, it need not wait until that time to determine whether an award of increased damages is appropriate.

Increased damages usually are based on a finding that the infringer's conduct was willful and in flagrant disregard of the patentee's rights. In this case, defendant was on notice of plaintiff's patent rights and had an affirmative duty to exercise due care to determine whether or not it was infringing.

Defendant may not avoid a holding of willful infringement because it has failed to show that it obtained a competent opinion from patent counsel and that it had exercised reasonable and good faith adherence to the analysis and advice contained therein.

Accordingly, defendant is liable to plaintiff for an amount equal to three times the amount of damages actually found or assessed. 35 U.S.C. 285 makes provision for the award of attorneys' fees to the prevailing party in exceptional cases. In order to support an award of attorneys' fees in a patent case, there must be a showing of conduct which is unfair, in bad faith, inequitable, or unconscionable. In view of defendant's willful infringement, this case involves those elements set out above and is an exceptional case, thereby entitling plaintiff to an award of its attorneys' fees. Plaintiff is also entitled to prejudgement interest based upon the damages found or assessed in the second phase of this trial.

Irwin M. Aisenberg

© 1985 Berman, Aisenberg & Platt

PRESUMPTIONS OF VALIDITY OF THE NEW CHILD OF INTELLECTUAL PROPERTY: MASK WORKS*

JENNIFER TEGFELDT**

Introduction

On November 8, 1984, President Reagan signed into law the Semiconductor Chip Protection Act (the Act).¹ The semiconductor chip, as the subject of this new form of intellectual property protection, is without dispute at the heart of information technology. By developing more efficient and economically functioning chips, the semiconductor industry has revolutionized the American standard of life.² Yet, intellectual property law prior to the passage of the Act was insufficient to protect the chip technology against piracy. Without such protection, innovating firms that had invested up to \$100 million in development costs for a single chip frequently experienced duplication of that chip at a cost of less than \$50,000 by a competing firm. Without the financial burden of accrued research and development costs, the pirate firm undersells the innovator with inexpensive copies of the original chip.³

The effect of this type of predatory activity, on an industry grounded in innovation, was characterized by Congress as a devastating disincentive for continuing research and development.⁴ Congress recognized that not only was such piracy a threat to the economic health of

^{*}Entered in 1985 NATHAN BURKAN MEMORIAL COMPETITION.

^{**}Juris Doctor, Franklin Pierce Law Center, 1985.

¹ The Semiconductor Chip Protection Act, Pub. L. No. 98-620, 98 Stat. 3335 (1984). [hereinafter cited as Act].

² H. Rep. No. 781, 98th Cong., 1st Sess. 2, reprinted in 1984 U.S. Code Cong. & Ad. News 5750, 5751. [hereinafter cited as H. Rep. No. 781].

³ Id. at 2.

⁴ Id. at 2-3.

the semiconductor industry but also to the transition of society to the use of high technology.⁵ In drafting the Act legislation, Congress sought to protect semiconductor chip products in a manner that would reward creativity, encourage innovation, research and investment in the semiconductor industry, prevent piracy, and protect the public interest.⁶

The Act, as ultimately signed into law, amended United States Code, Title 17, by adding Chapter 9.7 This Chapter, which notably is not part of the Copyright Act, created a sui generis form of intellectual property protection specifically suited to the characteristics of mask work technology. Nonetheless, Congress incorporated some elements of copyright law where applicable within the Act. For example, registration of the mask work with the Copyright Office is required within two years of commercial exploitation as a prerequisite to the grant of statutory protection.8 Congress further intended the courts to consider the body of law developed under copyright as precedent in deciding infringement issues.9

In copyright law, a certificate of registration granted within five years after first publication of the work constitutes prima facie evidence of the validity of the copyright. For mask works, Congress intended judicial reliance on copyright precedents to be tempered by the nature of the mask work itself. Thus, in view of the unique technology for which a sui generis form of statutory protection was required, Congress mandated the courts to have "sufficient flexibility to create a new body of law specifically applicable to semiconductor chip infringement." Such flexibility necessarily places in question the weight accorded mask work registrations when litigation inevitably arises.

In analyzing the judicial deference to be afforded to mask work registration and its attending presumption of validity, the courts will be required to determine if the similarities in registration between mask works and copyrightable subject matter compel a copyright standard of validity. Based on the clear mandate of Congress to create a new form of statutory protection, it is most likely that the courts

⁵ Id. at 3.

⁶ Id. at 1.

⁷ Act, supra note 1.

^{8 17} U.S.C. §908 (West 1985).

⁹ H. Rep. No. 781, supra note 2, at 26.

^{10 17} U.S.C. §410(c) (1976).

¹¹ H. Rep. No. 781, supra note 2, at 26.

will fashion a presumption of validity similar to copyright but with added characteristics as unique as those of the mask work itself.

Technical Background

Congress premised the passage of the Semiconductor Protection Act on an analysis of the technical nature of the semiconductor chip. Microprocessing technology began in 1947 with the replacement of vacuum tubes by small low-power amplifiers, transistors.¹² These transistors realized an immediate market in the coincident development of the stored-program digital computer. Throughout the 1950's engineers sought to further miniaturize the digital circuitry by combining semiconductor technology with transistor technology.¹³ By the mid 1950's, engineers were able to use photolithography to define circuitry patterns and to manufacture transistors on a wafer of germanium or silicon through batch processing.¹⁴ Finally in 1959, an integrated circuit was developed which permitted a series of transistors to be interconnected electrically according to a photoengraved pattern.¹⁵

While new technology has afforded circuit designers increased flexibility in design, the basic techniques for creating an integrated circuit have been available since 1960.16 Integrated circuits are characterized by a combination of circuitry units known as chips. These chips comprise a series of transistors built of semiconductor elements that only partially conduct electricity. Silicon, germanium, and gallium arsenide are typically used by semiconductor manufacturers. As reported to Congress by the semiconductor industry, the current generation of chips contains more than 250,000 transistors disposed on a silicon wafer a quarter inch square.17

Advanced semiconductor chips can include microprocessors or memories. The microprocessor chip features logic circuits which permit it to perform information processing functions. The memory chip serves as the data base storage unit or instruction set supplying the microprocessor.¹⁸

In view of the complexity of chip technology and the required cost

¹² Noyce, Microelectronics, Scientific American, Sept. 1977.

¹³ Id. at 64.

¹⁴ Id. at 64.

¹⁵ Id. at 65.

¹⁶ Id. at 65.

¹⁷ H. Rep. No. 781, supra note 2, at 11.

¹⁸ Id. at 11.

for research and development, the semiconductor industry begins development of a new chip with a market study. By determining the features desired by potential customers, the physical and electrical characteristics of the new chip are established. Logic and circuit diagrams are then drafted on a trial and error basis in order to design a compact layout compatible with manufacturing technology. Significantly, computer simulation of circuit design is used to immediately observe the behavior characteristics of the design prior to actual manufacture. O

After the three dimensional configuration of the circuit design has been established, and checked through use of detailed computer drawn plots, composite drawings of the various layers of the chip are used to create "masks." Each mask determines the pattern of a single layer of circuit design.²¹ These masks are then used to control the etching and depositing processes which recreate the circuit design on the chip.²²

The manufacture of masks begins with a computer generation of a complete pattern for each circuit layer.²³ This primary pattern, or reticle, is carefully proofed for errors. The pattern is then reduced tenfold and projected optically to create a final mask.²⁴ By reproducing this image in a "step and repeat" process, an original plate is generated.²⁵ Direct contact printing of the original plate produces submasters which may, in turn, be duplicated for use as working plates in the chip production process.²⁶ Such plates can take the form of either a fixed image on photographic emulsion or a pattern carved in chromium film on glass.²⁷

Disposition of a circuit design on a chip begins with the coating of a 3-inch or 5-inch silicon wafer with a layer of silicon dioxide as an insulator. The oxidized wafer is then coated with a light sensitive "resist." This substance is typically unpolymerized or synthetic rub-

¹⁹ S. Rep. No. 425, 98th Cong., 2nd Sess. 2 (1984). [hereinafter cited as S. Rep. No. 425].

²⁰ Oldham, The Fabrication of Microelectronic Circuits Scientific American 114, Sept. 1977. [hereinafter cited as Oldham].

²¹ Id. at 114.

²² S. Rep. No. 425, supra note 19, at 12-13.

²³ Oldham, supra note 20, at 114.

²⁴ Id. at 119.

²⁵ Id. at 119.

²⁶ Id. at 119.

²⁷ Id. at 121.

ber whose solubility is altered by exposure to ultraviolet radiation.²⁸

A mask is then placed over the silicon disk and exposed to ultraviolet light. Where the light has contacted the resist, the rubber hardens and becomes insoluble in organic solvents. By washing the chip in these solvents, a mask pattern in resist is left on the surface of the silicon wafer. Any remaining silicon dioxide not protected by resist is removed by hydroflouric acid. Finally, removal of the hardened resist reveals a pattern etched on the wafer which corresponds to the pattern of the mask.²⁹

The manufacturing process of a chip typically requires 8 to 12 masking steps. In some steps, "dopants" are diffused through "windows" etched in the surface of the silicon dioxide coating.³⁰ By virtue of the atomic structure of the dopants, electricity can be conveyed across the silicon crystal in the pattern established by the disposition of dopants.³¹ Aluminum, may also be diffused through the coating with the similar effect of altering the electrical conductivity of the silicon. The result is a sandwich of silicon, silicon dioxide, aluminum, and dopants which can be sawed into electronically operable chips less than ¼ x ¼ inch in size.³²

As compared to the efforts expended in design, copying is relatively easy. The casing layer of plastic or ceramic is removed and the top metal layer of the chip is photographed.³³ This layer is dissolved by acid, disclosing the underlying semiconductor material.³⁴ By repeating the process, the entire structure of the chip can be photographed layer by layer. While the photographs may be legitimately used to reverse engineer the chip, pirates replicate the entire series of masks to create an original chip.³⁵

Clearly, the key to the development of microelectonic circuitry is the photolithographic process which creates masks.³⁶ A mask work comprises the total of the two or three dimensional configurations of each layer of individual design layouts. It is the protection of these mask layouts for which Congress and the semiconductor industry

²⁸ S. Rep. No. 425, supra note 19, at 3.

²⁹ H. Rep. No. 781, supra note 2, at 13.

³⁰ Id. at 13, see also S. Rep. No. 425, supra note 19, at 3-4.

³¹ Meindl, Microelectronic Circuit Elements, Scientific American 72-73, Sept. 1977.

³² S. Rep. No. 425, supra note 19, at 13.

³³ S. Rep. No. 425, supra note 19, at 4.

³⁴ Id.

³⁵ Id.

³⁶ Oldham, supra note 20, at 123.

were most concerned. The essence of the mask work is not its expression, whether pictorial, as a pattern of transparency or opacity, or digital, as coordinates of the points in the mask, but its function in determining the shape and configuration of the surface layers of the semiconductor chip.³⁷ In view of the technical nature of the chip, a new statutory scheme of chip protection requires flexibility to protect the significant capital investment in development and to accommodate the new technology necessary to create more efficient chips.

The Form of Statutory Protection

Based on the testimony of industry experts about the nature of semiconductor products, Congress proposed two forms of statutory protection. On January 18, 1979, Representatives Edwards, McCloskey and Mineta introduced H.R. 1007, a bill to amend the Copyright Act to provide copyright protection for imprinted designs and patterns on semiconductor chips.³⁸ Following hearings before the Committee on the Judiciary,³⁹ the bill was reintroduced on September 29, 1982 by Representatives Edwards and Mineta as H.R. 7207.⁴⁰ This bill proposed an amendment to Title 17 of the United States Code, the Copyright Act, to protect semiconductor chips and masks against unauthorized duplication. On January 27, 1983, H.R. 1028 was introduced in the same form as H.R. 7207.⁴¹

The Senate proposed similar legislation advocating amendment of the Copyright Act in the form of S.1201.⁴² Under this bill, Title 17 would have been amended to create a new type of copyrightable work as a means to prohibit chip piracy.

Following hearings before the Subcommittee on Patents, Copyrights and Trademarks of the Committee on the Judiciary,⁴³ the Senate filed a report with the proposed legislation on May 2, 1984.⁴⁴ In

³⁷ S. Rep. No. 425, supra note 19, at 12-13.

^{38 125} Cong. Rec. H186 (daily ed. Jan 18, 1979).

The Semiconductor Chip Protection Act, 1979: Hearings on H.R. 1007 before the Subcomm. on Courts, Civil Liberties, and the Admin. of Justice of the Comm. on the Judiciary, 96th Cong., 1st Sess. (1979).

^{40 128} Cong. Rec. H7937 (daily ed. Aug. 29, 1982).

⁴¹ 129 Cong. Rec. H201 (daily ed. Jan. 27, 1983).

⁴² S. 1201 was first introduced by Senators Mathias and Hart on May 4, 1983, 129 Cong. Rec. S5991 (daily ed. May 4, 1983).

⁴³ The Semiconductor Chip Protection Act, 1983: Hearings on S. 1201 before Subcomm. on Patents, Copyrights and Trademarks of the Comm. on the Judiciary, 98th Cong., 1st Sess. (May 19, 1983). [hereinafter cited as 1983 Senate hearings].

⁴⁴ S. Rep. No. 425, supra note 19.

its report, the Senate acknowledged that the United States semiconductor industry had experienced a rate of growth in excess of 20% per year since the early 1970's. In 1983, the United States chip market was estimated at a value of \$7 billion and the world market at \$16 billion.⁴⁵ Yet, despite this unparalleled growth, the intellectual property laws remained ineffective in the prohibition of chip piracy.

Under copyright law, useful items cannot be protected per se. Moreover, the principles of copyright, as they existed in the absence of the proposed amendment, protected a design only where it existed apart from the utilitarian aspects of the article. Copyright laws similarly are unable to preclude unauthorized duplication of a useful article if the copyright adhered only to a drawing or other representation of that article. Lastly, copyright is limited to the protection of expression, and cannot be extended to ideas, plans or processes.⁴⁶ As a result, the Copyright Office has historically refused to register a copyright in designs for semiconductor chips, or the chips themselves.⁴⁷

While useful articles may be patented apart from their copyrightable aspects,⁴⁸ the Senate was not convinced that patent protection was appropriate for semiconductor chips.⁴⁹ To qualify for patent protection, the invention must be novel and nonobvious.⁵⁰ As acknowledged by Professor Arthur Miller in his testimony before the Senate subcommittee, the circuit design of a chip, as embodied in a mask, would rarely satisfy this standard of invention.⁵¹

Moreover, the period of time necessary to procure a patent even if the chip met the statutory requirements, would be unreasonable in the view of the pace of technological change. The rapid rate of chip technology development requires statutory protection that is not dependent on lengthy examination procedures to determine novelty and nonobviousness.⁵²

Trade secret protection was also summarily dismissed as a basis for protecting chip design. Since the nature of the chip is to display its

⁴⁵ Id. at 4 citing 1983 Senate hearings, supra note 43 at 153.

^{46 17} U.S.C. §102(b) (1976).

⁴⁷ S. Rep. No. 425, supra note 19, at 7 citing 1983 Senate hearings, supra note 43, at 27-30. (Statement of Dorothy Schrader, Associate Register of Copyrights for Legal Affairs and General Counsel of the Copyright Office).

⁴⁸ Mazer v. Stein, 347 U.S. 201, reh'g denied 347 U.S. 949 (1954).

⁴⁹ S. Rep. No. 425, *supra* note 19, at 8.

^{50 35} U.S.C. §103 (1976).

⁵¹ S. Rep. No. 425, supra note 19, at 8.

⁵² Id. at 8.

circuitry design on its face, any trade secret claim to this design would be destroyed with the first sale. 53

Based on the history of expansion of copyright to new forms of protection, the Senate proposed amendment to the present laws. Senator Mathias recognized that addition of mask works as copyrightable subject matter would force copyright law to function in an unprecedented way. Nonetheless, expansion of copyright to chip technology was considered consistent with the expansion of copyright to include works of commercial character.⁵⁴

The Senate reasoned that inclusion of mask works within well established copyright law would encourage stability and predictability by affording mask works prompt and inexpensive registration. Through the existing copyright system, the immediate need for industrial protection of chips could be met in the semiconductor chip industry. Reliance on the established body of copyright law would avoid the expensive and lengthy shakedown period of litigation necessary to define the parameters of a new form of statutory protection. Moreover, the Senate predicted that mask works under copyright would more likely be afforded reciprocal international recognition than would a new sui generis form of intellectual property right.⁵⁵

Attendant in the inclusion of mask works as copyrightable subject matter was the concern that the chip copyright could be exploited as a sub-form of patent monopoly without passing the statutory requirements for examination. To allay these fears, the Senate incorporated in S.1201 a requirement of showing of substantial similarity before a plaintiff could successfully prove infringement. This requirement arose out of industry testimony that a pirate would be required to copy not part, but all of an integrated chip in order to obtain a usable end product.⁵⁶ Thus, unauthorized copying would be presumed by a court if chip designs were substantially the same. If, however, the defendant was able to prove that the portion of the chip alleged to be copied was capable of being expressed in only one of a few ways, a presumption of infringement based on similarity would be inappro-

⁵³ Id. at 9.

Evidence of copyright registration for belt buckles, telephone books and advertisements support the conclusion that copyright protects artistic as well as commercial works. Id. at 13. See also, Mazer v. Stein, 347 U.S. 201 (1954) in which the industrial use of an article did not bar its registration under copyright.

⁵⁵ Id. at 12-14.

⁵⁶ Id. at 16-17.

priate. If only very small portions of the defendant's and the plaintiff's chips were similar, infringement would not be held to have occurred. Disputes as to subtle mask changes representing a significant and original design would be resolved through introduction of expert testimony.⁵⁷ By applying these standards in infringement actions, the Senate assured protection for the new chip design against unauthorized copying without offending the right of innovators to carefully reverse engineer.⁵⁸ S. 1201 was unanimously passed by the Senate on May 16, 1984.⁵⁹

During the pendency of the Senate's consideration of the appropriate form for semiconductor chip protection, the House conducted hearings on H.R. 1028.⁶⁰ The Subcommittee concluded, based on a strong industry consensus formed by the Semiconductor Industry Association, that a sui generis form of protection was required for chip technology.⁶¹ As such, a new bill, H.R. 5525, was introduced to take the place of H.R. 1028.⁶² This bill was unanimously passed by the House on June 11, 1984.⁶³

During the summer of 1984, the House and Senate did not meet to resolve the significant differences in the two proposed versions of the Act. Rather, the House and Senate Subcommittee themselves negotiated the relevant points. As a result of the cooperative effort of Senators Mathias and Leahy, sponsors of the Senate bill, and Congressman Kastenmeier, the House bill was adopted with some modifications.⁶⁴

⁵⁷ Id. at 18.

⁵⁸ Id. at 21-22.

⁵⁹ 130 Cong. Rec. §5833 (daily ed. May 16, 1984).

⁶⁰ The hearings were held on August 3, 1983 and December 1, 1983. The Semiconductor Chip Protection Act of 1983: Hearings on H.R. 1028 before the Subcomm. on Courts, Civil Liberties, and the Admin. of Justice of the Comm. on the Judiciary, 98th Cong., 1st. Sess. (1983).

⁶¹ Moore & Susman, The Semiconductor Chip Protection Act, 1 The Computer Lawyer 11 (1984). [hereinafter cited as Moore & Susman].

⁶² H.R. 5525 was first introduced by Representative Edwards on April 26, 1984. 130 Cong. Rec. H3127 (daily ed. April 26, 1984).

^{63 130} Cong. Rec. H5524 (daily ed. June 11, 1984).

Moore & Susman, supra note 61, at 14. The Act was incorporated as Title III of the "Federal District Court Organization Act," H.R. 6163. The Senate unanimously voted for passage on October 9, 1984. 130 Cong. Rec. H11598 (daily ed. Oct. 9, 1984).

The Sui Generis Approach

Congressional power to amend or modify intellectual property law is granted within the Constitution, Article 1, Section 8. It provides:

The Congress shall have Power** to Promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.⁶⁵

This power requires Congress to define the scope of the limited monopoly to be granted a creator in exchange for public access to that creator's work product. In so doing, Congress must balance the rights of the creator to control his creation with the competing interest of society in the free flow of information.⁶⁶ In the case of semiconductor chip technology, these mandates compelled Congress to institute a new form of intellectual property right.

The creation of a sui generis form of protection in H.R. 5525 reflected the opinion of Congress that such an approach was uniquely suited to the nature of mask works. Thus, although copyright had historically been expanded to include commercial applications for copyrightable subject matter, it could not protect works intended as an integral part of a manufacturing process. This industrial purpose was recognized by the House Committee as the basis of the staunch refusal of the Copyright Office to accept semiconductor chips as copies of pictorial or sculptural works under the deposit requirements of the Copyright Act. ⁶⁷ In order to avoid compromising the basic integrity of copyright, a new industrial copyright distinct from the traditional author's copyright was required. ⁶⁸

In response to Senate concerns that a sui generis form of protection for mask works would not be recognized internationally, the House Committee argued in its report that no other country to date had extended any protection to mask works. Moreover, there was no assurance that copyright of mask work would be recognized and protected in a foreign jurisdiction. To provide protection for a foreign copyright without reciprocation abroad would place foreign copyright holders in a favored position over domestic citizens. In the absence of any retaliatory legislation against nations that refuse to protect mask works, the United States semiconductor chip innovator would realize

⁶⁵ U.S. CONST. art I, §8.

⁶⁶ Universal City Studios, Inc. v. Sony Corp. of America, 104 S.Ct. 774 (1984), reh'g denied 104 S. Ct. 1619 (1984).

^{67 17} U.S.C. §407(b); see also H. Rep. No. 781, supra not 2, at 6.

⁶⁸ H. Rep. No. 781, supra note 2, at 6.

no greater protection than if the intellectual property laws had remained the same.⁶⁹

The House further recognized that copyright for a mask work would run counter to the fundamental prohibition against copyright in useful items. This prohibition is based on the expression-idea dichotomy that permits the coexistence of copyright and patent statutory protection for different features of the same subject. Thus, it ensures that creations which do not rise to the statutory requirements for novelty in patents are not granted a pseudo-patent monopoly in the guise of copyright.⁷⁰

Under the 1979 bill, H.R. 1007, mask works were construed as works of art in order to fit within traditional copyright law. However, as evidenced by industry testimony, the designs exist not as art objects but as the essential means to manufacture a useful article, the semiconductor chip. Such a characteristic jeopardized the traditional theoretical dividing line between copyrightable artistic features and non-copyrightable utilitarian aspects, and placed in question the vitality of copyright.

In view of the philosophical conflicts resulting from attempts to place mask works within copyright precedent, Congress was compelled to create a sui generis form of statutory protection. Under H.R. 5525, and the Act as signed into law, the risk of confusion and the distortion of existing copyright law was avoided by developing a new body of statutory law specifically suited to the unique nature of chip design. Where applicable to semiconductor chip technology, this new law could draw in analogy from established copyright and other intellectual property principles.⁷³

Presumptions of Validity in Mask Work Infringement Actions

As acknowleged by Congressman Kastenmeier, the passage of the Semiconductor Chip Protection Act represented the creation of the first new form of intellectual property right since the passage of the Lanham Act.⁷⁴ While this new right was hailed as a significant advan-

⁶⁹ Id. at 7-8.

⁷⁰ Id. at 8-9.

⁷¹ H. Rep. No. 781, supra note 2, at 9. As introduced in Congress, H.R. 1007 was to amend the Copyright Act of 1976 to extend copyright protection for imprinted designs on semiconductor chips.

⁷² H. Rep. No. 781, supra note 2, at 10.

⁷³ *Id.* at 10-11.

⁷⁴ Comments by Rep. Kastenmeier upon the unanimous vote of the House passing H.R. 6163. 130 Cong. Rec. H11598. (daily ed Oct. 9, 1984).

tage to chip innovators, concerns arose to the uncertainty of its application in court proceedings. To avoid the lengthy and expensive litigation attendant in the passage of new legislation, the House and Senate established a detailed legislative history as guidance.⁷⁵

As mandated by Congress, mask works are protectable under the Act if they do not comprise "staple, familiar or commonplace designs... considered as a whole... unoriginal."⁷⁶ The clause "as a whole" was specifically added to ensure that the subject matter of the mask was original despite commonplace elements.⁷⁷ Moreover, the prohibition against the registration of staple designs was not intended to create an examination system within the Copyright Office. While registrations would necessarily require comparison to prior existing art, any question of invalidity based on "commonplace" or "staple" grounds was intended to be raised in the forum of infringement actions.⁷⁸

Under Section 902(b) of the Act, a mask work registration is considered presumptively valid by a court. Only in circumstances where the defendant produces actual evidence that the mask work is a staple would the plaintiff be required to prove validity. Mere unsupported allegations of invalidity raised by the defendant would be insufficient to shift the burden of proof to the plaintiff. Under the legislative history, the courts are intended to apply the civil "preponderance of the evidence" standard in deciding validity, and to afford registration at least some weight as prima facie evidence.⁷⁹

To guide courts in determining whether a design is staple, Congress advised against reliance solely on the geometric appearance of the mask.⁸⁰ Rather, the courts would have to determine whether the registered work constituted an insubstantial variation of a prior work

The most exhaustive analysis of the Act, Title III, H.R. 6163, is provided by the "Explanatory Memorandum of the Senate Amendment to H.R. 6163, Title III, as considered by the House of Representatives," 130 Cong. Rec. E4432 (daily ed. Oct. 10, 1984); and "Explanatory Memorandum — Mathias-Leahy Amendment to \$1201," 129 Cong. Rec. \$12916 (daily ed. Oct. 3, 1984).

⁷⁶ 17 U.S.C. §902(b) (West 1985).

Explanatory Memorandum of the Senate Amendment to H.R. 6163, Title III, As Considered by the House of Representatives, 130 Cong. Rec. E4432 (daily ed. Oct. 10, 1984).

⁷⁸ Explanatory Memorandum — Mathias-Leahy Amendment to S. 1201, Section III, Originality, §902(b), 129 Cong. Rec. §12916 (daily ed. Oct. 3, 1984). [hereinafter cited as Mathias-Leahy].

⁷⁹ Id.

⁸⁰ Id.

as existed on the date of registration. Although this reasoning approached the unobvious requirements for patents under 35 USC §103, a standard not to be presumed for mask works, Congress intended the patent case law to be instructive. Thus, courts were not to ignore the creativity of the mask as a whole by dissecting it into individual, and perhaps, staple elements. Such a basis for determining validity was envisioned to separate trivial variations on prior mask works from truly creative advances in chip technology. 20

Clearly, the intent of Congress was to place a determination of originality within the courts, rather than the Copyright Office. The result is the creation of a fertile ground for litigation on the issue of what constitutes an original design protectible under the Act. To be deemed original, a mask work must have resulted from substantial effort and investment and must contain more than insubstantial variations from the prior art. Proof of originality may therefore require expert testimony to show that creative changes in design, however subtle, would justify protection against a pirate's copying.⁸³

Under the Act, infringement is to be determined by the application of the copyright principle of substantial similarity.⁸⁴ In *Ideal Toy Corp. v. Sayco Doll Corp.*, this principle permitted the court to facially compare the distinctive features and characteristics of the dolls of the parties for similarity.⁸⁵ Where distinctive features are similar, reasoned the court, a prima facie conclusion of copying is appropriate.⁸⁶ Further, as held in *Concord Fabrics Inc. v. Marcus Brother Textile Corp.*, similarities are to be determined by the "ordinary observer" test.⁸⁷ Thus, where an average lay observer would recognize the alleged copy as having been appropriated from the copyrighted work, infringement is presumed.⁸⁸ Such a test necessarily requires decisions to be ad hoc.⁸⁹

^{81 35} U.S.C. §103 (1976).

⁸² Mathias-Leahy, supra note 78.

⁸³ Boorstyn, The New Semiconductor Chip Act, 1 Copyright Law Journal 2-3 (1985). [hereinafter cited as Boorstyn].

⁸⁴ Mathias-Leahy, supra note 78, at Section VII, Reverse Engineering, §906(a) citing 17 U.S.C. §906(a) (West 1985).

^{85 302} F.2d 623, 624, 133 USPQ 104, 105 (2d Cir. 1962).

^{86 302} F.2d at 624.

^{87 409} F.2d 1315, 1316, 161 USPQ 3, 3 (2d Cir. 1969).

⁸⁸ Id. at 1316.

⁸⁹ Peter Pan Fabrics, Inc. v. Martin Weiner Corp., 274 F. 2d 487, 489, 124 USPQ 154, 155 (2d Cir. 1960).

In applying the substantial similarity test to mask works, Congress recognized that a calculation of percentages of similarity would not be dispositive of infringing copying. This was especially true in view of the not uncommon practice of chip technologists to combine transferrable section of mask works in deriving a new design. Nevertheless, the Act specifically prohibited wholesale and piecemeal copying of material portions of registered mask works. 90 Presumably, then, the courts are intended to apply an originality test to define the material portions of the protected work. Comparisons of these portions with those of the alleged infringing device, based on the substantial similarity test, would permit a determination of infringement consistent with copyright principles.

Under §906 of the Act, innovators who legitimately reverse engineer portions of a chip are protected against charges of infringement. This privilege applies in circumstances where 1) an individual reproduces the mask solely for the purpose of teaching, analyzing or evaluating the concepts embodied in the mask work or 2) an individual performs this analysis to incorporate the results in an original mask work. As acknowledged by Congress, the end product of a reverse engineering process is not an infringement, and may qualify for protection, itself, under the Act. Whether the privilege will apply to an alleged infringing device will depend on whether the two mask works are substantially identical. A finding of a lack of substantial similarity would permit the privilege to attach. An adverse finding will not preclude the privilege as a defense to infringement if the defendant can document his significant toil and investment in creating the work.

The Congressional nod in favor of the reverse engineering privilege is a significant expansion of the fair use doctrine of copyright law. 94 Under the Act, reverse engineers can copy the ideas embodied in pro-

138

⁹⁰ Mathias-Leahy, supra note 78, at Section VII, Reverse Engineering, §906(a).

^{91 17} U.S.C. §906(a) (West 1985).

⁹² Mathias-Leahy, supra note 78, at Section VII, Reverse Engineering, §906(a).

⁹³ Id.

^{94 17} U.S.C. §107 (1976). According to the statute, the factors to be considered in determining whether a use constitutes fair use include:

⁽¹⁾ the purpose and character of the use,

⁽²⁾ the nature of the copyrighted work,

⁽³⁾ the amount and substantiality of the portion used in relation to the copyrighted work as a whole, and

⁽⁴⁾ the effect of the use on the potential market for a value of the copyrighted work.

tected mask works and incorporate these in a new and potentially protectable design. Infringement would only be recognized where there is copying of the expression of those ideas.⁹⁵

Further, by incorporating an originality requirement in the judicial evaluation of the valid protection of a mask work, Congress forecloses a pirate from masquerading as a legitimate reverse engineer. Prior to the incorporation of the originality provision, piracy was presumed from a lack of documentation of time and effort spent in analysis, study and copying. Based on this simple distinction, pirates would be able to feign privileged reverse engineering efforts by falsifying documentation. 96 Now, the reverse engineering defense must be pleaded and proved through a paper trail. A defendant must show that the allegedly infringing design required a significant investment of effort above mere copying. Since the analysis of originality and substantial copying requires judicial interpretation of the Act, the extent to which a reverse engineering process is documented will undoubtedly be high. 97

Finally, the Act requires a mask work to be registered with the Copyright Office within two years after the date the mask work was first commercially exploited.⁹⁸ Such a registration is required before an infringement action can be instituted.

Section 908(f) prescribes the legal effect of registration. Under this Section, the certificate of registration constitutes prima facie evidence of the facts stated in the certificate, and verifies that the applicant has met all the requisites under the Act with respect to the registration of claims. As described by the legislative history, a registrant therefore has a rebuttable presumption of validity for his claim of protection. The presumption may only be overcome by "probative, plausible" evidence adjudged by the civil preponderance of the evidence test. 100

While Congress explicitly adopted the corresponding copyright provisions for registration, the presumptions of originality based on the

⁹⁵ Gregoras, Williams, Siegal, The Semiconductor Chip Protection Act of 1984, 4 Scott Report 6 (1984). [hereinafter cited as Gregoras].

⁹⁶ Boorstyn, supra note 83, at 4.

⁹⁷ Gregoras, supra note 95, at 7.

^{98 17} U.S.C. §908; Failure to register the mask work within the two year required period releases the mask work to public domain. 17 U.S.C. §908(a) (West 1985).

⁹⁹ Mathias-Leahy, supra note 78, at Section X Registration §908.

¹⁰⁰ Id.

registration certificate are quite different.¹⁰¹ Under \$410(c) of the Copyright Act, the registration constitutes prima facie evidence of validity of the copyright.¹⁰² This section has been interpreted to mandate recognition of originality as included in a validity presumption.¹⁰³ By contrast, Section 908(f) does not require a specific presumption of validity, but rather shifts the burden to the defendant to challenge the originality of the registered mask work.¹⁰⁴

Despite the differences in statutory language, established copyright law is instructive on how mask work infringement cases will fare in court. For example, in Midway Mfg. Co. v. Bandai - America, Inc., a case in which the owner of a copyright video game alleged infringement by hand-held games, the District Court of New Jersey held that a certificate of registration provides prima facie evidence of originality.105 Nonetheless, the presumption is rebuttable. To show a lack of originality, the defendant would have to present, in the absence of direct proof of copying, the same showing of copying required of a plaintiff in a prima facie infringement case. Such a showing of proof would include access and substantial similarity between the work of the plaintiff and that from which it was allegedly copied. Any showing on the part of the plaintiff that although he had copied, he had added some original elements in the work would prevent the defendant from rebutting the presumption. Such reasoning should be applicable to mask works, even in view of the originality standard.

The *Midway* court further held that the Copyright Office need not conduct an examination for originality in the registration. As stated by the court,

"(i)t is undisputed that the Copyright Office has neither the facilities nor the authority to rule upon the factual basis of applications for registration or renewal, and that where an application is fair upon its face, the Office cannot refuse to perform the 'ministerial duty' of registration imposed on it by law." 106

Moreover, courts have long held that any finding of fact or conclusion of law by the Register of Copyrights is not binding on the courts.¹⁰⁷

The provisions in the Copyright Act covering registration include 17 U.S.C. §§408-412 (1976).

^{102 17} U.S.C. §410(c) (1976).

¹⁰³ Boorstyn, supra note 83, at 2.

¹⁰⁴ Id.

¹⁰⁵ 546 F. Supp. 125, 140, 216 USPQ 812, 821 (D.N.J. 1982).

¹⁰⁶ 546 F. Supp. at 144 quoting Cadence Industries Corp. v. Ringer, 450 F. Supp. 59, 65-66 (S.D.N.Y. 1978).

¹⁰⁷ Bailie v. Fisher, 258 F.2d 425, 426, 117 USPQ 334, 335 (D.C. Cir. 1958).

The application of these principles to mask works coincides with the Congressional intent that mask work registrations be issued within the shortest possible time, through established copyright procedures. Such a speeded process is necessary to provide applicants protection for their works as quickly and as inexpensively as possible, without a protracted period of examination for novelty. Originality, as determined by a court applying copyright principles, means only that the work is independently created, and merits protection under the statute. It is only when a court is satisfied that the characteristics of originality of a mask work justify the protection of the Act that the issues of unprivileged copying and substantial similarity are examined. As in established copyright law, analysis of these issues will vary with the degree of creativity in the work, the nature of the work itself, and the setting in which it appears.

Congress similarly compared the standards of proof for rebutting a mask work registration with those for patents. The clear and convincing standard of evidence necessary to overcome the presumption of patent validity was considered inappropriate. 111 The Copyright Office could not be expected to render a considered judgment on the technical questions of originality. Only in the court of infringement litigation would the issue of originality be raised and considered. 112 This analysis of the Act discloses that Congress intended the presumption of validity for mask works to be developed under a unique combination of patent and copyright principles specifically suited to the nature of protection necessary for chip technology.

Conclusion

As stated by Thomas Jefferson, "laws and institutions must go hand in hand with the progress of the human mind... as new discoveries are made... institutions must advance also, and keep pace with the times." The Semiconductor Chip Protection Act of 1984

^{108 130} Cong. Rec. S5833 (daily ed. May 16, 1984) (statement of Sen. Mathias).

¹⁰⁹ Knickerbocker Toy Co. v. Winterbrook Corp., 554 F. Supp. 1309, 1317, 216 USPQ 621 (D.N.H. 1982).

¹¹⁰ See *supra* note 105, at 139.

Mathias-Leahy, supra note 78, at Section X, Registration, §908, see generally, Hayes, Presumptions and Burdens of Proof: Forgotten Tools in Patent Litigation, 26 IDEA 7 (1985) (a patent is presumed valid unless the defendant can prove invalidity by clear and convincing evidence).

¹¹² Id.

^{113 129} Cong. Rec. S5991 (daily ed. May 4, 1983) (statement of Sen. Nathias).

represents the culmination of over five years of cooperative effort between Congress and the semiconductor industry to create an appropriate form of statutory protection for chip technology. The result was a sui generis form of protection according a chip design owner exclusive rights in his design for the relatively short term of ten years. This protection was intended to foreclose piracy, to protect the significant research and development capital investments by chip technology innovators, and to encourage innovation.

The Act was based on a combination of copyright and patent principles. Congress and industry agreed that mask work protection must be available quickly and inexpensively. This goal required the choices of the Copyright Office to administer mask work registrations based on a facial evaluation of the application. The registration provisions of the Act replicated corresponding provisions of the Copyright Act. Further, patent law principles of unobviousness were adopted as instructive on the issue of originality of the mask work.

Despite the detailed legislative history left by Congress, judicial interpretation of a presumption of validity is speculative. Clearly Congress intended the registration certificate to constitute prima facie evidence of the facts stated in it, and of the compliance of the owner with the requirements of the Act. Unlike Copyright, the Act does not expressly provide for a specific presumption of originality as included in validity. For mask work owners, such an issue will only be raised as a defense to an infringement action. To avoid liability, the defendant must prove that the mask work was staple and therefore not susceptible to the protection of the Act. Proof of the staple, noninnovative nature of the mask work requires what Congress has acknowledged as a standard approaching the unobviousness standard of patent law. Thus, a judicial finding of a mask as original is to be based on the unique interactive characteristics of the mask as a whole rather than on a dissection of parts of the mask which may, in fact, be staple. Moreover, the standard of proof required of the defendant to overcome a presumption of validity is intended to be the preponderance of the evidence. This is in contrast to the patent standard of clear and convincing evidence.

Based on this analysis, the standard to be applied by a court for a presumption of validity falls between that of copyright and patent. In view of the Congressional mandate to the courts to examine evidence of originality in determining validity, a plaintiff may not rely solely on his registration as prima facie evidence of validity. Both the innovator and the ingenious reverse engineer must be able to document that their original masks were the result of substantial effort and

investment which contains more than insubstantial variations on the prior art at the time of registration.

As noted by Senator Mathias on the occasion of the filing of the first mask work application on January 7, 1985, the effect of the new law will not be realized until the legislative mandate is translated into regulations by the administering agency.¹¹⁴ Even before the effective date of the Act, the Electronics Industry Association of Japan had filed a petition for interim protection to be extended to Japanese-owned mask works.¹¹⁵ Moreover, Sweden, Canada, the Netherlands, Great Britain, Australia and the European Economic Community have filed similar petitions.¹¹⁶ While the acceptance of the first application by the Copyright Office most certainly signifies the reality of this new form of intellectual property protection, and interest among foreign innovators, the interpretation of the Act and its ultimate success in protecting semiconductor chip technology against piracy remain the province of the courts.

¹¹⁴ 29 PAT. TRADEMARK & COPYRIGHT J. (BNA) 246-247 (Jan. 10, 1985). The first application was filed by Intel Corp. followed by applications on the same day by Motorola and Harris Corp.

²⁹ PAT. TRADEMARK & COPYRIGHT J. (BNA) 584 (April 4, 1984). Interim protection is sought by authority of §914 of the Act, 17 U.S.C. §914 (WEST 1985).

³⁰ PAT. TRADEMARK & COPYRIGHT J. (BNA) 171 (June 20, 1985) Sweden was granted one year of interim protection on the basis that Sweden is engaged in good faith efforts to develop effective legislative protection for semiconductor chips. Mask works owned by citizens of Great Britain, Australia, and the Netherlands were also afforded interim protection. 30 PAT TRADEMARK & COPYRIGHT J. (BNA) 231 (July 4, 1985) The petition of the European Economic Community is currently pending. Id. at 232.

ANATOMY OF A MISAPPROPRIATION: EDWARD M. GOLDBERG, M.D. v. MEDTRONIC, INC.*

BY ROY E. HOFER AND JOHN M. WAGNER**

The unlawful taking, euphemistically "misappropriation," of ideas is increasing. In addition to growing in number, misappropriations are becoming more egregious, involving the most dominant companies and the upper echelons of corporate management.

In a recent case, Goldberg v. Medtronic, Inc., the president of the largest pacemaker company in the world orchestrated the misappropriation of a surgeon's revolutionary concept for use in a new and highly profitable pacemaker accessory. After a four-week trial the federal district court judge concluded that the following were the salient facts of the misappropriation.

As medical researchers have known for decades, the heart can be artificially paced by external electrical impulses. These impulses are emitted by a pulse generator or "pacemaker" and relayed to the heart through electrical leads. The leads are attached to the inside or the outside of the heart.

Early permanent leads that attached to the outside of the heart had several problems. Such a lead ended in stainless steel spikes. The surgeon installed the lead by inserting the spikes into stab wounds he made in the heart wall. To prevent the lead tip from pulling loose under the heart's constant beating motion, the surgeon sutured the lead tip to the heart wall. The entire procedure involved surgically

^{*© 1985} Roy E. Hofer and John M. Wagner.

^{**}Willian Brinks Olds Hofer Gilson & Lione Ltd., Chicago, Illinois.

¹ 209 U.S.P.Q. 259 (N.D. Ill. 1980), aff'd, 686 F.2d 1219, 216 U.S.P.Q. 89 (7th Cir. 1982), reh'g denied (October 28, 1982).

opening the patient's chest — a major and potentially dangerous operation. Even after the lead was installed, the heart's motion sometimes made the lead spikes break off or simply enlarge the holes they were in. While the problems with the lead spikes were eventually solved by replacing the original rigid spikes with flexible coil springs, researchers were at a loss to find a safe alternative to opening the patient's chest when installing leads.

On August 7, 1964, Dr. Edward Goldberg of the Michael Reese and Cook County Hospitals in Chicago devised a new pacemaker lead that would be visually and securely attached to the outside of the heart without opening the patient's chest. The tip of Dr. Goldberg's lead was shaped like a rigid corkscrew and screwed into the heart wall with a special tool. The surgeon would approach the heart from below and, viewing the chest interior through a tubular instrument called a mediastinoscope, screw the lead tip into the heart wall.

At first, Dr. Goldberg said nothing publically about his astounding concept. For almost a year, while practicing insertion techniques for his new lead on dogs at Michael Reese Hospital, he told no one but his co-workers and associates of his work. At an American Medical Association research forum in the summer of 1965, however, Dr. Goldberg declared he was able, using mediastinoscopy, to approach and attach an electrical lead to the heart wall. He did not disclose his screw-in lead concept or precisely how he inserted or attached his leads.

After his AMA presentation, Inga Haug, a representative of Medtronic, Inc., the world's largest pacemaker company, contacted Dr. Goldberg. Haug told Dr. Goldberg that she had heard of the claims he had made at the AMA forum. She then invited him, at Medtronic's expense, to visit Medtronic headquarters in Minneapolis and discuss his work. Dr. Goldberg accepted the invitation.

In Minneapolis, Dr. Goldberg met briefly with Earl Bakken, the President of Medtronic. Later in the visit, Dr. Goldberg explained and demonstrated his screw-in lead ideas to Bakken and other Medtronic representatives. While the Medtronic officials did not voice much interest in Dr. Goldberg's ideas with the doctor present, shortly after Dr. Goldberg's visit, Medtronic hired one Lee Bolduc specifically to conduct research on the pacemaker leads Dr. Goldberg had disclosed.

In December, 1965, Charles Eddy, a Medtronic sales representative, saw Dr. Goldberg's screw-in lead for the first timd. Eddy told Bakken about what he had seen. Eddy again contacted Bakken to tell him what Dr. Goldberg had said in a January, 1966 presentation on

mediastinoscopy at the Michael Reese Heart Institute. After several more discussions about Dr. Goldberg's screw-in leads, Bakken told Eddy to invite Dr. Goldberg back to Medtronic's Minneapolis head-quarters.

Dr. Goldberg made his second expense-paid trip to Medtronic on March 16, 1966. After Dr. Goldberg demonstrated his leads during this trip, Bakken told him Medtronic was interested in the project. Medtronic then promised to supply research equipment and to make for Dr. Goldberg his corkscrew-tipped lead.

As promised, Medtronic sent Dr. Goldberg many leads and other research equipment over the following months. In April, 1966, however, while supplies from Medtronic were still coming in, Dr. Goldberg received a call from the Medtronic president. In that call, Bakken stated that Medtronic would not actively participate in research on the new lead. Bakken explained that Medtronic's advisor, Dr. William Chardack, saw no need for a new pacemaker lead and, furthermore, did not support Dr. Goldberg's technique of installing leads using a mediastinoscope. It seemed at that point, at least to Dr. Goldberg, that Bakken and Medtronic were losing interest in his concept. Such, however, was hardly the case.

Just after Bakken's call, at Medtronic Bolduc made a special lead for Dr. Goldberg that incorporated the doctor's designs. Bolduc was prepared to send the new lead to Dr. Goldberg, but Bakken would not allow him to do so.

At about the same time, Eddy, on Bakken's orders, contacted Herb Taus at General Electric Company and told him Dr. Goldberg needed help with a new pacemaker lead. Eddy, also on Bakken's orders, maintained a rapport with Taus and Dr. Goldberg and reported to Medtronic the progress of the General Electric work and anything else he saw or heard.

In June 1966, Eddy and Bolduc met with Dr. Goldberg at an American Medical Association conference to discuss his research. Then, on January 7, 1967, Dr. Goldberg went for a third time to Minneapolis to meet with Medtronic officials. At that meeting Dr. Goldberg discussed the progress of his work with General Electric.

In May, 1967, Eddy and Manny Villafona, an official from Medtronic's Minneapolis office, went to Chicago and saw Dr. Goldberg install his lead in a dog. Dr. Goldberg told Eddy and Villafona of the present and expected development of the lead, and Eddy immediately reported to Bakken what he had seen and heard.

On June 7, 1967, Jack Schwartz, Medtronic's national sales manager, called Eddy and told him to collect data about Dr. Goldberg's

lead for Wilson Greatbatch, a member of both Medtronic's Board of Directors and Medtronic's Design Review Board.

Finally, in October, 1972, Medtronic began marketing a new Model 6917 lead for use in humans. This lead, which Bolduc admitted was derived from Dr. Goldberg's ideas, had a rigid, corkscrew-shaped tip and was designed to be screwed into the heart with a special tool.

Dr. Goldberg first found out about the Model 6917 lead when Medtronic's Chicago representative demonstrated it at Michael Reese Hospital. Dr. Goldberg immediately told the representative that the Model 6917 lead embodied ideas and designs that belonged to him. Medtronic refused to discuss the matter.

Medtronic was not the only company to misappropriate Dr. Goldberg's ideas. While Dr. Goldberg was working with General Electric, he disclosed his concept of a screw-in lead to Henry Tachick. Research at General Electric following this disclosure, like Lee Bolduc's research at Medtronic, resulted in development of a workable lead embodying Dr. Goldberg's concepts. General Electric, recognizing the value of the new lead, patented it and made written offers to license the lead to several companies, including Medtronic.

General Electric filed its patent application for the new lead on behalf of Henry Tachick, thereby alleging that Tachick was the lead's inventor. When Dr. Goldberg learned that General Electric had failed to credit him as the inventor, he challenged Tachick's right to a patent by an interference proceeding in the United States Patent and Trademark Office. General Electric eventually disclaimed the contested claims in Tachick's patent, and Dr. Goldberg obtained a patent on the new lead in his own name.

Dr. Goldberg's dispute with Medtronic was much more trying. Faced with Medtronic's unwillingness even to discuss its Model 6917 lead with him, Dr. Goldberg filed suit against Medtronic on January 23, 1976 for misappropriation of his lead concept. In response, President Bakken and his underlings mounted a massive cover-up of Medtronic's true relationship with Dr. Goldberg — a cover-up that continued all the way through the four-week trial that took place in the latter part of 1978.

Bakken repeatedly denied he had ever discussed a screw-in lead concept with Dr. Goldberg. Bakken insisted that Dr. Goldberg had made two, not three, trips to Medtronic headquarters. Medtronic's records of the doctor's trips and payments it had made for them mysteriously disappeared. Records of Medtronic's shipments of electrical leads and other research equipment to Dr. Goldberg likewise vanished. The smokescreen was acrid and thick.

Nonetheless, the testimony of numerous witnesses, including Eddy, and Eddy's carefully-kept diary, revealed the truth about Dr. Goldberg's association with Medtronic. Ultimately, the trial judge found that there had been a confidential relationship between Medtronic and Dr. Goldberg, Dr. Goldberg had disclosed his screw-in lead concept to Medtronic, and Medtronic was guilty of misappropriating that concept.

Once Medtronic's liability to Dr. Goldberg had been established, it remained for the judge to decide what damages Medtronic should pay.

Following its market introduction in October of 1972, Medtronic's Model 6917 lead achieved rapid success. By early 1974, Model 6917 leads represented over 85% of the pacemaker leads Medtronic sold for attachment to the outside of the heart. By January 4, 1977, Medtronic's gross income from sales of these leads amounted to over \$12.8 million.

January 4, 1977 was an important date to the court, because that was the date on which Dr. Goldberg's United States patent issued on his screw-in lead. Issuance of a United States patent formally discloses the substance of the patent to the public. It also gives the patent holder the right to sue anyone who infringes the patent by making, using, or selling the product or process covered by the patent. In fixing basic damages, the trial court considered that Medtronic's liability for misappropriation ended where its liability, if any, for infringing Dr. Goldberg's patent began. Thus, the court looked at Medtronic's profits on the Model 6917 lead only up to January 4, 1977.

After deducting the costs Medtronic incurred in producing the Model 6917 lead, the trial court determined that Medtronic had, up to January 4, 1977, realized gross profits on the lead of \$8,756,000. The court awarded Dr. Goldberg \$875,600 — 10% of Medtronic's profits on the lead — because it determined that 10% was the amount of Dr. Goldberg's contribution to development of the lead. Although it had the power to award punitive damages to Dr. Goldberg, the court did not even consider such an award in its decision.

Was the trial court's damage award adequate? The court expressly held that Medtronic had misappropriated Dr. Goldberg's ideas. The court was also well aware of Medtronic's bad faith, having found a confidential relationship between Medtronic and Dr. Goldberg in spite of Medtronic's vigorous and concerted concealment of relevant facts surrounding that relationship. Nonetheless, for all Medtronic's fraud, lies, and deceits, the court's damage award allowed the company to walk off with a full 90% of its ill-gotten profits on the Model

6917 leads.

The trial court's damage award could have been far more equitable. First, the court might have recognized that, if Dr. Goldberg had not disclosed his ideas to Medtronic, Medtronic would not have developed a Model 6917 lead until it learned of the concept through a public disclosure by Dr. Goldberg, e.g., the issuance of his United States patent. Thus the court could have awarded to Dr. Goldberg all of Medtronic's profits on the Model 6917 lead for the period up to January 4, 1977. This approach is supported by the facts. While Medtronic had the research machinery and capital to develop the Model 6917 lead, it did not have the *idea* for the Model 6917 lead until *after* Dr. Goldberg disclosed the concept to Medtronic. Significantly, Bolduc was hired by Medtronic specifically to explore Dr. Goldberg's concept.

Second, the court might have used its power to award punitive damages and fixed such damages at an amount at least sufficient to nullify any profits Medtronic received through misappropriating Dr. Goldberg's concept and, preferably, sufficient to make Medtronic regret its acts of misconduct. The purpose of punitive damages is to deter reprehensible social or commercial conduct. This case provided a textbook situation for the application of such damages.

As it turned out, both Medtronic and Dr. Goldberg appealed the trial court's decision. In essence, Medtronic thought, in its most extreme position, that it should have to pay Dr. Goldberg nothing. Dr. Goldberg, on the other hand, thought that Medtronic should have to pay him much more.

Medtronic argued on appeal that by 1972, when it first marketed the Model 6917 lead, it no longer had any duty to keep Dr. Goldberg's ideas confidential, because Dr. Goldberg's ideas had already been publically disclosed. Medtronic relied upon Dr. Goldberg's 1970 West German patent and 1972 British patent on his lead concept and General Electric's 1968 written offers to license the Tachick lead.

Dr. Goldberg argued on appeal that the trial court's damage award was inadequate because, by allowing Medtronic to keep \$8.0 million in profits, it effectively *rewarded* Medtronic for its egregious conduct and encouraged future commercial piracy. Dr. Goldberg argued that an equitable award required all of Medtronic's profits and substantial punitive damages.

The Court of Appeals for the Seventh Circuit decided the appeal on August 16, 1982 and affirmed the judgment of the trial court. In answer to Medtronic's argument, the court said that public disclosures of Dr. Goldberg's ideas before Medtronic first marketed the Model 6917 lead did not relieve Medtronic of liability to Dr. Goldberg, because

Medtronic had not shown it developed the Model 6917 lead from information contained in these public disclosures, rather than from the information Dr. Goldberg had disclosed to Medtronic in confidence. In reaching its conclusion, the court felt compelled to comment on Medtronic's conduct as follows:

An "obligation of confidence" in this context means more than an obligation to keep information secret; the obligation is akin to that of a fiduciary relationship. Dr. Goldberg reposed his trust in Medtronic upon disclosing his concepts to it and Medtronic accepted that trust. Thus, Medtronic had a duty to act in good faith when dealing with Dr. Goldberg. Medtronic, however, did act to Dr. Goldberg's detriment by conducting secret, parallel research, monitoring his progress while feigning a lack of interest, preparing to market and finally marketing a product based on his concepts while refusing to acknowledge his contribution. The fact that in the course of Medtronic's conduct, public disclosures revealed Dr. Goldberg's original concept does not negate Medtronic's bad faith both before and after the disclosures.

In response to Dr. Goldberg's argument for all of Medtronic's profits, the court stated simply that the damages fixed by a trial court lie within its discretion and should be set aside only if they are arbitrary. The court found the trial court's damage award was "well within the range of reasoned discretion" and declined to set it aside. Concerning Dr. Goldberg's plea for punitive damages, the court once again deferred to the trial court's "considerable discretion in this area" and approved the denial of such damages, even though the court's language elsewhere in its opinion resoundingly condemned Medtronic's conduct.

The final outcome of this misappropriation, although favorable to the wronged party, represents a myopic form of justice. The trial and appellate courts recognized clearly that a company had engaged in numerous acts of bad faith to purloin an individual's ideas, yet neither felt compelled to require the culpable company to pay the individual any more than it would have paid him for his contribution in a voluntary and honest research and development effort. The result is that this case sends a most unfortunate message to the unscrupulous business: you have everything to gain and nothing to lose by misappropriating the ideas of others. At best, you will make off, free of charge, with a valuable idea. At worst, a court will tell you to pay what you might have paid had you dealt honestly and in good faith all along.

The Goldberg case is not along in encouraging would-be misappropriators. In the face of burgeoning industrial espionage and trade secret plunder an alarming number of courts, as described in Hofer, Business Warfare over Trade Secrets, 9 Litigation 8 (1983), are permitting even the most cold-blooded trade secret thieves to escape lia-

152

bility entirely or to make off with practically all their ill-gotten profits. Such cases cumulatively do nothing to deter future business misconduct.

If innocent innovators are to be protected from overreaching corporations, if integrity in business is to be not only encouraged but preserved, the message must clearly be changed. At a minimum, courts must reassess their damages policies. However it is done, unscrupulous operators must hereafter be told, in no uncertain terms, that actual or attempted misappropriation of ideas carries a simply unacceptable business risk of severe judicial retribution.

CURRENT LITERATURE IN LAW/SCIENCE: POLICY AND INTELLECTUAL AND INDUSTRIAL PROPERTY

COMPILED BY JUDITH GIRE* AND LISA A. MITTEN**

INDUSTRIAL/INTELLECTUAL PROPERTY — UNITED STATES

- Dalton, Stanley C. Intellectual Property Laws and Their Relationship to Products and Services Offered by Savings Institutions, 50 LEGAL BULL. 69 (March 1984).
- Fitzgibbon, Daniel H. Federal Income Taxation of Transfers of Intellectual Property, 28 RES GESTAE 362 (Jan. 1985).
- Joelson, Mark. Licensing of Intellectual Property Rights, 14 GA. J. INT'L. & COMP. L. 479 (1984).
- Kassman, Herbert S. Intellectual Property, International Business and the Export Trading Company: Some Basic Training, 2 BOST. U. INT'L. L. J. 231 (1983).
- Nixon, L. S. Protection of Intellectual Property Rights in the United States for Computer-Aided Processes, Machines and Audio-Visual Displays, 3 SOFTWARE PROTECTION 1 (Jan. 1985).
- Ortner, Charles B. Current Trends in Software Protection A Litigation Perspective: An Outline, 25 JURIMETRICS 319 (1985).
- Weapons for Protecting Proprietary Rights, 3 SCOTT REP. 1 (Sept. 1984).
- West, Robin Page. Intellectual Property Spawns Litigation Explosion, 10 LITIGATION NEWS 1 (Spring 1985).

^{*}J.D. Franklin Pierce Law Center, A.M.L.S., Michigan; Law Librarian, Franklin Pierce Law Center.

^{**}M.L.S. University of Pittsburgh; Technical Service Librarian, Franklin Pierce Law Center.

INDUSTRIAL/INTELLECTUAL PROPERTY — INTERNATIONAL

Freed, R.N. Intellectual Property Rights Applicable to Computer Software Programs and Data Bases and How They Arise, IN Proceedings of the IEEE International Conference on Computer Design, p. 706. Silver Spring, MD: IEEE COMPUTER SOC'Y PRESS, 1984. 876 p.

INDUSTRIAL/INTELLECTUAL PROPERTY — BY COUNTRY

- Aoki, A. Legal Protection for Computer Software Applied to Textile Technology, IN COMPUTERS IN THE WORLD OF TEXTILES, Annual World Conference. Manchester, England: Textile Institute, 1984.
- Blakeney, Michael. The Protection of Industrial and Intellectual Property Rights Under Section 52 of the Trade Practices Act 1974, U. NEW S. WALES L. J. 39 (1984 Annual).
- Farmer, James. The Admissibility of Survey Evidence in Intellectual Property Cases, U. NEW S. WALES L. J. 57 (1984 Annual).
- Liberman, Adam. The "Apple" Cases: A Comparison of the American and Australian Decisions, U. NEW S. WALES L. J. 143 (1984 Annual).
- McKeough, J. Apple Computer Inc. v. Computer Edge Pty Ltd., U. NEW S. WALES L. J. 161 (1984 Annual).
- Min, Byoung Kook and James M. West. The Korean Regime for Licensing and Protection of Intellectual Property, 19 INT'L. L. 545 (1985).
- Patfield, Fiona. The Remedy of Account of Profits in Industrial and Intellectual Property Litigation. U. NEW S. WALES L. J. 189 (1984 Annual).
- Ricketson, S. "Reaping Without Sowing": Unfair Competition and Intellectual Property Rights in Anglo-Australian Law, U. NEW S. WALES L. J. 1 (1984 Annual).
- Serventy, Natasha. The Protection of Performers' Rights in Australia?, U. NEW S. WALES L. J. 175 (1984 Annual).

PATENTS — UNITED STATES

Blau, Dabek, R. A. Corporate Patent Practice: A Career Alternative, A Paper Presented at the 189th American Chemical Society National Meeting, 28 April -3 May 1985. Abstract Available from The Society, Washington, D.C.

- Bramson, Robert S. Ownership of Patents, Trade Secrets and Copyrights, 25 JURIMETRICS 291 (1985).
- Bryant, J. H. Automating the U.S. Patent System, IN COMMUNICATIONS IN THE INFORMATION AGE. New York: IEEE, 1984. p. 1499-1503, Vol. 3.
- Constantino, Mark A. and Daniel L. Master, Jr. The Seventh Amendment Right to Jury Trial in Complex Civil Litigation: Historical Perspectives and a View From the Bench, 12 AIPLA Q. J. 279 (1984).
- DPMA Member Clears Software Patent Legal Hurdle, 23 DATA MGMT, 14 (Jan. 1985).
- Daniszewski, J.P. Effect of Online Searching on Patent Searches in a Broad-Based Chemical Company, A Paper Presented at the 189th American Chemical Society National Meeting, 28 April 3 May 1985. Abstract Available from The Society, Washington, D.C.
- Gholz, Charles S. Compelled Testimony, Testimony Abroad and Protective Orders in Interference Proceedings Under the New Rules, 67 J. PAT. & TRADEMARK OFF. SOC'Y 239 (1985).
- Glasgow, Alice H. The U.S. Patent and Trademark Office: Progress Toward Automation, 32 FED. BAR NEWS & J. 226 (1985).
- Gray, Peter L. Arbitration Under Section 294 and Patent Licensing (Part 2), 7 LICENSING L. & BUS. REP. 207 (March April 1985).
- Heyd, W. E. Patent Liaison, A Paper Presented at the 189th American Chemical Society National Meeting, 28 April 3 May 1985. Abstract Available from The Society, Washington, D.C.
- Hofer, Roy E. The CAFC and Fact/Law Questions in Patent Cases: The Jury's Role Burgeons! 12 AIPLA Q. J. 295 (1984).
- Kaback, S. M. Challenge of the Future: An Open Forum on Online Databases and Patent Searching, A Paper Presented at the 189th American Chemical Society National Meeting 28 April 3 May 1985. Abstract Available from the Society, Washington, D.C.
- Kaback, S. M. and S. Pagnucco. New Vistas in Patent Information Via Online Databases, A Paper Presented at the 189th American Chemical Society National Meeting, 28 April 3 May 1985. Abstract Available from The Society, Washington, D.C.
- Kobbe, Bruni. Cohen-Boyer Plasmid Patent Issues: Many Questions Linger, 4 GENETIC ENGINEERING NEWS 1 (Oct. 1984).
- Krosin, Kenneth. Are Plants Patentable Under the Utility Patent Act? 67 J. PAT. & TRADEMARK OFF. SOC'Y. 220 (1985).

- Lee, Jerome G. The Law-Fact Distinction From Trial By Ordeal to Trial By Jury, 12 AIPLA Q. J. 288 (1984).
- Leonard, Will E. and Roger D. Taylor. Section 337: A Familiar Road Into Strange Country, 12 AIPLA Q. J. 336 (1984).
- Lindgren, Thomas B. The Sanctity of the Design Patent: Illusion or Reality? Twenty Years of Design Patent Litigation Since Compco v. Day-Brite Lighting, Inc. and Sears, Roebuck & Co. v. Stiffel Co., 10 OKLA. CITY U. L. REV. 195 (1985).
- Malin, E. F. Patent Protection and Publication, A Paper Presented at the 189th American Chemical Society National Meeting, 28 April 3 May 1985. Abstract Available from the Society, Washington, D.C.
- Mexic, Darryl. Post-Interference Ex Parte Practice and Interference Estoppel Under the New Rules of Interference Practice, 67 J. PAT. & TRADEMARK OFF. SOC'Y 260 (1985).
- No Implied License Under Process Patent Conferred to Purchaser of Equipment From Former Franchise of Patent Owner, 7 LICENSING L. & BUS. REP. 216 (March-April 1985).
- The Patentability of Computer Programs: Merrill Lynch's Patent for a Financial Services System, 59 IND. L. J. 633 (1983-1984).
- Pravel, B. R. Issues of Law and Fact at Appellate Level, 12 AIPLA Q. J. 276 (1984).
- Rodau, Andrew G. Protection of Intellectual Property Patent, Copyright, and Trade Secret Law in the United States and Abroad, 10 N. C. J. INT'L. L. & COM. REG. 537 (1985).
- Schmitt, C. R. Review of the Patent Literature Relating to Decontamination, A Paper Presented at the 189th American Chemical Society National Meeting, 28 April 3 May 1985. Abstract Available from The Society, Washington, D.C.
- Simmons, E.S. Impact of Online Databases on Patent Searching in a Pharmaceutical Company, A Paper Presented at the 189th American Chemical Society National Meeting, 28 April 3 May 1985. Abstract Available from The Society, Washington, D.C.
- Simmons, E.S. Patent Family Databases, 8 DATAPHASE 49 (Feb. 1985).
- Terapane, J. F. and E. D. Lewis. Impact of Online Searching on Traditional Patent Searches in the Patent and Trademark Office, A Paper Presented at the 189th American Chemical Society National Meeting, 28 April - 3 May 1985. Abstract Available from The Society, Washington, D.C.

- Terapane, J. F. and R. J. Tansey. Full Text Searching of U.S. Patents, A Paper Presented at the 189th American Chemical Society National Meeting, 28 April 3 May 1985. Abstract Available from The Society, Washington, D.C.
- U.S. Patent and Trademark Law Developments, 83 PAT. & TRADE-MARK REV. 126 (1985).
- Webber, David. Biotechnology Firms Gird for Clash Over Patent Claims, 62 CHEMICAL & ENGINEERING NEWS 18 (Dec. 10, 1984).

PATENTS — BY COUNTRY

- Asahi Chemical Seeking Patent Rights for Human TNF, 23 JAPAN ECONOMIC J. 17 (Mar. 12, 1985).
- Biotechnology Patent Guidelines Envisage Faster Examination, 23 JAPAN ECONOMIC J. 14 (Jan. 1, 1985).
- Borking, J. J. Protection of Patent and Author's Program Rights in a Number of European Countries, 26 INFORMATIE 988 (Dec. 1984).
- China: Regulations for the Implementation of the Law of the People's Republic of China on Joint Ventures Using Chinese and Foreign Investment, 83 PAT. & TRADEMARK REV. 131 (1985).
- Feinerman, James V. An Overview of China's Patent Regulations, 7 E. ASIAN EXECUTIVE REP. 23 (15 April 1985).
- Fraud on the Canadian Patent Office: What Does It Take? 83 PAT. & TRADEMARK REV. 109 (1985).
- Haeusser, E. Thoughts on a German Patent Information System, IN INFOBASE '85 (proceedings). Munchen, FRG: Bertelsmann Datenbankdienste GmbH, 1985.
- Kahlen, H. German Patent Law and the Employee, MIKROCOMPUTER 103 (Dec. 1984).
- Tittlebach, G. Electronic Publishing and Delivery of German Patent Information, A Paper Presented at the 189th American Chemical Society National Meeting, 28 April 3 May 1985. Abstract Available from the Society, Washington, D.C.
- Tittlebach, G. Online Retrieval and Electronic Delivery of German Patent Information, IN FACHINFORMATIONSZENTRUM. 1984.

COPYRIGHT — UNITED STATES

- Baumgarten, Jon A. Copyright Protection of Computer Programs, 32 FED. BAR NEWS & J. 220 (1985).
- Boyden, P. C. Computer Software Copyright, IN proceedings of the Association for the Development of Computer-Based Instructional Systems, 26th International Symposium, Philadelphia, PA, 25-28 Mar. 1985.
- Bramson, Robert S. Ownership of Patents, Trade Secrets and Copyrights, 25 JURIMETRICS 291 (1985).
- Conley, John M. and Robert M. Bryan. A Unifying Theory for the Litigation of Computer Software Copyright Cases, 63 N. C. L. REV. 563 (1985).
- Copyright Infringement of Video Games: When the Chips are Down: Midway Manufacturing Co. v. Strohon, 5 LOYOLA ENTERTAINMENT L. J. 132 (1985).
- Copyright Infringement: Substantial Similarity Found Lacking: <u>Litchfield v. Spielberg</u>, 5 LOYOLA ENTERTAINMENT L. J. 234 (1985).
- Copyright Infringement: Temporal Remoteness Is No Defense: <u>ABKO</u>
 <u>Music, Inc. v. Harrisongs Music, Ltd.</u>, 5 LOYOLA ENTERTAIN<u>MENT L. J. 245 (1985)</u>.
- Copyright Protection of Video Games: Pac-Man and Galaxian Granted Extended Play: Midway Manufacturing Co. v. Artic International, Inc., 5 LOYOLA ENTERTAINMENT L. J. 143 (1985).
- Copyright Royalty Tribunal's Second Distribution Withstands Challenge: Christian Broadcast Network v. Copyright Royalty Tribunal, 5 LOYOLA ENTERTAINMENT L. J. 176 (1985).
- The Copyrightability of Computer Software Containing Trade Secrets, 63 WASH. U. L. Q. 131 (1985).
- Crowley, Michael L. A First Amendment Exception to Copyright for Exigent Circumstances, 21 CAL. W. L. REV. 437 (1985).
- Farmer, David C. Writing with Light: The Metaphysics of the Copyright Process in the Betamax Cases, 7 COMM/ENT 111 (1984).
- Feingold, Stephen W. Parallel Importing Under the Copyright Act of 1976, 31 J. COPYRIGHT SOC'Y 211 (1985).

- Lupo, R. V. International Trade Commission Section 337 Proceedings and Their Applicability to Copyright Ownership, 32 J. COPY-RIGHT SOC'Y. 193 (1985).
- McCambridge, Michael J. Contributory Infringement by Providing the Means: The Staple Article of Commerce Doctrine and an Alternative Analysis for Copyright Law, 18 JOHN MARSHALL L. REV. 703 (1985).
- Martin, Robert G. Music Video Copyright Protection: Implications for the Music Industry, 32 UCLA L. REV. 396 (1984).
- A New Method of Calculating Copyright Liability for Cable Rebroadcasting of Distant Television Signals, 94 YALE L. J. 1512 (1985).
- Risher, C.A. Copyright and Computer Software A Question of Ethics, 22 AEDS MONITOR 23 (March April 1984).
- Rodau, Andrew G. Protection of Intellectual Property Patent, Copyright, and Trade Secret Law in the United States and Abroad, 10 N. C. J. INT'L. L. & COM. REG. 537 (1985).
- Rosch, Winn L. Copyright Suits: As Dust Settles, So Should You, 2 PC WEEK 30 (16 April 1985).
- Rosch, Winn L. To Protect Your Work, Copyright Makes Might, 2 PC WEEK 26 (March 19, 1985).
- Scott, M. D. Copyright Transfers and Computer Software, 3 SOFT-WARE PROTECTION 12 (Jan. 1985).
- Selsky, Eileen L. Is Copyright a Property Right or a Creation of Statute? 2 ENT. & SPORTS LAW. 14 (Spring 1984).
- Sloane, Owen J. and Robert Throne. International Aspects of United States Copyright Law: The Music Business, 18 J. BEV. HILLS B. A. 182 (Summer 1984).
- Stern, Richard H. Section 117 of the Copyright Act: Charter of the Software Users' Rights or an Illusory Promise, 7 W. N. ENG. L. REV. 459 (1985).
- Tennenbaum, Susan. Copyright Protection for Commercial Design: The Moorhead Bill, 7 J. COMP. BUS. & CAP. MARKET L. 117 (March 1985).
- Videotaping of Copyrighted Works For Temporary Classroom Use: Encyclopaedia Britannica Educational Corp. v. Crooks, 5 LOYOLA ENTERTAINMENT L. J. 165 (1985).
- Yambrusic, Edward S. The Status of U.S. Copyright Relations With Taiwan, 13 INT'L. J. LEGAL INFO. 1 (Feb. April 1985).

COPYRIGHT — INTERNATIONAL

- Abrahams, Robert J. Over the Border in Hot Pursuit: Cable Satellite and the Authors in Europe The 22nd Jean Geiringer Memorial Lecture in International Copyright Law, 32 J. COPYRIGHT SOC'Y. 173 (1985).
- Tyson, William C. Parallel Importation of Copyrighted Phonorecords, 10 N. C. J. INT'L. L. & COM. REG. 397 (1985).
- Takaishi, Y. Copyright Protection of Computer Programs and International Trends, 25 INFORMATION PROCESSING SOC'Y JAPAN (JOHO SHORI) 1209 (1984).

COPYRIGHT — BY COUNTRY

- Borking, J. J. Object Code: A Riddle in Copyright Legislation? 27 INFORMATIE 66 (Jan. 1985).
- Chesser, James P. Copyright Protection for Integrated Circuits: Reevaluating Old Ideas About New Competitive Processes, 22 U. W. ONT. L. REV. 200 (Dec. 1984).
- Colby, Richard. The First Sale Doctrine The Defense That Never Was? COPYRIGHT 192 (May 1985).
- Copyright, 129 SOLICITOR'S J. 193 (March 22, 1985).
- Flint, Michael F. A USER'S GUIDE TO COPYRIGHT. London: Butterworths, 1985.
- High Court Ruling Improves Outlook for Copyright Protection, 7 E. ASIAN EXECUTIVE REP. 23 (15 April 1985).
- Kimura, Y. Copyright Protection of Computer Software, 25 INFOR-MATION PROCESSING SOC'Y. JAPAN (JOHO SHORI) 1203 (1984).
- Joosten, S. M. M. Protection of Software by the 1912 Copyright Act, 27 INFORMATIE 60 (Jan. 1985).
- Loeber, Dietrich A. "Socialist" Features of Soviet Copyright Law, 23 COLUMBIA J. TRANSNATIONAL L. 297 (1985).
- Plaisant, Robert. The Rights of Performers, 18 COPYRIGHT BULL. 6 (1984).
- Scott, M. D. Copyright Protection of Software in Mexico and its Impact on Proprietary Rights, 3 SOFTWARE PROTECTION 8 (Dec. 1984).
- Scott, M. D. Software Patentability in the United Kingdom, 3 SOFT-WARE PROTECTION 15 (Jan. 1985).

- Studkey, Jennifer E. Liability for Authorizing Infringement of Copyright, U. NEW S. WALES L. J. 77 (1984 Annual).
- Vematsu, H. The Legal Protection of Computer Software and Copyrightability of Computer Programs, 25 INFORMATION PROCESS-ING SOC'Y JAPAN (JOHO SHORI) 1191 (1984).
- Vivant, M. Thoughts on the Author Copyright for Software Protection, 10 INF. & DIRITTO 73 (May Aug. 1984).
- Yambrusic, Edward S. The Status of U.S. Copyright Relations With Taiwan, 13 INT'L. J. LEGAL INFO. 1 (Feb. April 1985).

TRADEMARKS — UNITED STATES

- Kirkpatrick, Richard L. Trademark Law: A Banker's Primer, 102 BANKING L. J. 220 (1985).
- Palmeter, N. David. The U.S. International Trade Commission at Common Law: Unfair Competition, Trademark, and Section 337 of the Tariff Act, 18 J. WORLD TRADE L. 497 (1984).
- Promotional Goods and the Functionality Doctrine: An Economic Model of Trademarks, 63 TEXAS L. REV. 639 (1984).
- Rodau, Andrew G. Protection of Intellectual Property Patent, Copyright, and Trade Secret Law in the United States and Abroad, 10 N. C. J. INT'L. L. & COM. REG. 537 (1985).
- Rosch, Winn L. Trademarks: The Name of the Game is a Matter of Rights, 2 PC WEEK 46 (Feb. 26, 1985).
- Sutton, John P. The Fact-Law Dichotomy in Trademark Cases, 12 AIPLA Q. J. 310 (1984).
- Trademark Infringement And the Right of Publicity: Protecting the "Persona": <u>Bi-Right Enterprise</u>, Inc. v. Button Master, 5 LOYOLA ENTERTAINMENT L. J. 262 (1985).

TRADEMARKS — BY COUNTRY

- Koch, Daniel S. MTI Opposition Blocks Proposed Ban on Certain Foreign Trademarks, 7 E. ASIAN EXECUTIVE REP. 21 (Jan. 15, 1985).
- McKeough, Jill. Character Merchandising: Legal Protection in Today's Marketplace, U. NEW S. WALES L. J. 97 (1984 Annual).
- Muratore, Anthony. The Trade Marks Act of 1955 and Parallel Imports, U. NEW S. WALES L. J. 117 (1984 Annual).

TRADE SECRETS — UNITED STATES

- Balancing Employers' Trade Secret Interests in High-Technology Products Against Employees' Rights and Public Interests in Minnesota, 69 MINN. L. REV. 984 (1985).
- Bramson, Robert S. Ownership of Patents, Trade Secrets and Copyrights, 25 JURIMETRICS 291 (1985).
- The Copyrightability of Computer Software Containing Trade Secrets, 63 WASH. U. L. Q. 131 (1985).
- Quittmeyer, Peter C. Trade Secrets and Confidential Information Under Georgia Law, 19 GA. L. REV. 543 (1985).

TRADE SECRETS — INTERNATIONAL

U.S. Software Protection: Problems of Trade Secret Estoppel Under International and Brazilian Transfer of Technology Regimes, 23 COLUMBIA J. TRANSNATIONAL L. 679 (1985).

LAW, SCIENCE AND TECHNOLOGY — UNITED STATES

- Jacob, Edwin J. Of Causation in Science and Law: Consequences of the Erosion of Safeguards, 40 BUS. LAW 1229 (1985).
- Weidner, Helen E. The United States and North-South Technology Transfer: Some Practical and Legal Obstacles, WIS. INT'L. L. J. 205 (Ann. 1983).

LAW, SCIENCE AND TECHNOLOGY — INTERNATIONAL

Roffe, Pedro. Transfer of Technology: UNCTAD's Draft International Code of Conduct, 19 INT'L. L. 689 (1985).

COMMENTARY

Computer Crime

The prolific and meteoric rise of computer usage has generated myth and mystique regarding the use and abuse of computers. The characteristics of a computer that contribute to its popularity — storage capacity, speed and accessibility of organized data — are the same characteristics that can make computers targets for crime. News stories depicting teenagers accessing for fun the databases of government agencies and large hospitals provide the general public with the more sensational accounts of the wrongful accessing of computers. Beyond these media-grabbing stories are the questions of whether these stories present isolated anomalies or widespread practices. This commentary will define computer crime, especially as it relates to traditional notions of property, evaluate the applicability of current law to the prosecution of computer crime, and offer suggestions for implementing computer security measures.

A broad utilitarian definition of computer crime is most practical. Such a concept divides the definition of computer crime into two component parts: where the computers are the facilitators of the offense (e.g., theft, fraud, embezzlement), and where computers are the victims of the offense (e.g., sabotage and vandalism). Likewise the main component parts of a computer also lend themselves to different types of protection. The hardware of a computer is tangible. Its protection under traditional criminal statutes of burglary, larceny, and vandalism should not be problematic. The software of a computer, the binary coding of information stored within the hardware which allows the user to create, is intangible. Because of this intangibility, the protection of software under traditional criminal statutes may be problematic.

The definition of any crime always includes two basic components which must be proven to exist in order to sustain a cause of action. They are the "res," the activity which is done, and the "mens rea," the requisite intent. (This element is not required in strict liability action, however.) An overview of the case law dealing with crimes involving computers indicates that the courts have had difficulty identifying and defining the "res" element in these cases. The concept of property and specifically the differences between tangible and intangible prop-

erty have been areas of greatest confusion for the courts.

In the traditional notion of property, the concept of tangibility was integral to the definition of property. A good example of the changing concerns over the definition of property can be found in the interpretation of the federal statute 18 U.S.C. 641 (1982). The statute prohibits the theft, sale, disposition, embezzlement, or unauthorized conversion of federal property, whether it be from government agencies or corporations in which the federal government has a propriety interest. Included in this statute under "federal property" are records and "things of value." Prosecution of computer crimes under this statute has required judges to interpret property and "things of value."

The Second Circuit Court of Appeals in *United States v. Girard*, 601 F.2d 69 (2d Cir. 1979), aff'g United States v. Lambert, 446 F. Supp. 890, specifically defined "thing of value" to include intangibles such as computer programs. The court surveyed various jurisdictions which had considered a variety of intangibles which had been construed as a "thing of value." The United States District Court for the District of Columbia in *United States v. Hubbard*, 474 F. Supp. 64 (D.D.C. 1979), concluded that tangible copies of computer information were to be considered property under the statute. However, the court declined to consider the issue of whether the copying of the data without translating it into tangible form would be covered by the statute. The different circuits have not been uniform in their interpretation of "thing of value." To date the United States Supreme Court has not considered this question.

Intangible property has been defined to include copyrighted material, patents, trademarks, and trade secrets. Of these subject areas, only trade secret law and copyright law include criminal sanctions. Federal copyright criminal sanctions are codified at 17 U.S.C. 506 (1982). Trade secret protection can only be found under individual state statutes. There is no federal statute nor constitutional provision for trade secret protection.

Criminal trade secret protection can be classified into three types. The first is that of a general theft statute which has been construed to include trade secret theft. Unfortunately this type of statute is difficult to apply when what is taken is a trade secret, and nothing else of tangible substance is taken. In this situation, courts have been reluctant to assign "res" value to an intangible. The second classification is that which specifically proscribes the theft or misappropriation of trade secrets. As of 1983, approximately half of the states had such statutes. The final type encompasses the state statutes which directly proscribe computer crime, and therefore may be applied to the mis-

appropriation of trade secrets which may be embodied in the computer software.

Representative cases may serve to display the courts' dilemmas in interpreting the statutes to fit the crime. Hancock v. State, 402 S.W. 2d 906 (Tex. Crim. App. 1966), rev'd sub nom. Hancock v. Decker, 379 F.2d 552 (5th Cir. 1967), involved the theft of numerous computer programs. The thieves attempted to sell a listing of these programs to a competitor of the victim. The attempted sale price was 5 million dollars. The issue here was whether the programs were worth their intrinsic value when used, or were they worth the cost of the paper on which they were printed (tangibility). Expert testimony indicated that the programs were conservatively worth 2.5 million dollars. This estimation was based on what the stored information would allow its user to create. The court held that the programs were worth their intrinsic value.

Ward v. Superior Court, 3 C.L.S.R. 206 (Cal. Super. Ct. 1972), involved the unauthorized transfer of a computer program from one terminal to another. The victim was a time sharing service bureau which operated a computer, access to which was allowed only to approved customers. Access to the computer was via the telephone and the bureau's unlisted telephone number. The defendant claimed that the computer's electronic impulses were not considered tangible property as defined in the trade secret statute. Applying the principle of ejusdem generis, the court agreed with this argument. However, the court further reasoned that because these impulses had been transcribed onto a printout sheet, the data was clearly tangible property and would come within the parameters of the trade secret statute. The holding in this case strongly suggests that if the electronic impulses had not been translated onto the computer printout, there would not have been tangible evidence of the misappropriation, and prosecution under the trade secret statute would not have been possible.

There are good reasons for using criminal trade secret statutes for the protection of computer software. One reason is the wide applicability of trade secret protection to many kinds of subjects. Another reason is the broad scope of protection. Trade secret law will protect the idea as well as its expression from unauthorized disclosure or use. The immediacy of protection is another reason for seeking trade secret sanctions. Unlike patent law where protection may take years to secure, copyright and trade secret protection are in force upon creation. However, copyright protection requires that the idea be expressed in tangible form before protection is afforded. A final reason for using trade secret protection is the duration of that protection. A trade secret

may be protected forever, so long as there is no unauthorized use or disclosure. Unfortunately, once either of those situations occurs, the protection is lost. The risk of disclosure with its concomitant need for extensive surveillance monitoring would be the greatest factor in deciding that criminal trade secret protection would not alone be an adequate means of protecting computer software. There is also the possibility that trade secret protection may be preempted by 17 U.S.C. 301(a) (1976).

Traditional notions of larceny may also be inadequate to properly prosecute computer crimes. Larceny has traditionally meant the dispossession of a tangible item belonging to another with the intent of retaining it. This thinking presupposed that possession by one person precluded the possession by any other person. Such is usually not the case in computer crime. Typically, the disk, or tape containing the information is rarely stolen (such an action would easily be covered by traditional larceny statutes). What usually occurs in computer software theft is that someone copies a computer program either by electronic transfer or by computer printout. There is seldom dispossession. and often there is little indication that any damage has been done. The loss suffered here is not one of dispossession, but rather one of diminution in value of the owner's property. In theory this concept is similar to that of trade secret. In order for theft statutes to adequately protect computer crime they must also address this concept of deprivation of value.

A case which illustrates the difficulties the judicial system has faced in prosecuting such crime is *United States v. Seidlitz*, 589 F.2d 152 (4th Cir. 1978), *cert. denied*, 441 U.S. 922 (1979). The defendant was indicted for interstate transportation of stolen property and two counts of fraud by wire. He was convicted of the latter two offenses. The defendant used the telephone to access and transmit, without authority, computer software information from a main terminal in Maryland to his terminal in Virginia. Successful prosecution under the interstate theft statute was not possible because of the court's hesitancy in defining the computer's electronic impulse as property within the meaning of the statutes, or in defining the unauthorized transmission of these impulses from one terminal to another as the taking of property within the meaning of the statute.

In addition to depriving the owner of the value of the information contained within the computer, computer crime also presents the circumstance of depriving the owner of the time or services of the computer, by the unauthorized use of the computer. However, in *Lund v. Commonwealth*, 217 Va. 688, 232 S.E.2d 745 (1977), the Virginia Su-

preme Court held that there is no property interest in the use of the computer, therefore the state larceny statute was inapplicable for the prosecution of unauthorized use of computer services. In Lund, a student used the school's computer to type his dissertation. Unknown to him, his faculty advisor had neglected to secure permission for him to do this. Permission would have been granted had it been requested. The defendant was convicted of grand larceny. Evidence indicated that the computer printouts were considered near worthless ("scrap paper"), but the value of the unauthorized time used was appraised at between \$5,000 and \$26,000. On appeal the state Supreme Court held that labor and services were not to be construed as being covered under the larceny statute, unless specifically mandated by the legislature. Since that was not the case here, and at common law theft of labor and services were also not subject to a cause of action in larceny, the Court would not extend the interpretation, and reversed the conviction. The Court also held that the computer printouts had no ascertainable monetary value, and therefore could not be the basis for a larceny conviction.

The New York courts addressed this same issue of theft of computer time and services in *People v. Weg*, 113 Misc.2d 1017, 450 N.Y.S.2d 957 (Crim. Ct. 1982). However, here prosecution was brought under the state's Theft of Services statute (N.Y. Penal Law 165.15(8) (McKinney Supp. 1982-1983)). The defendant was a New York City Board of Education employee who used his work computer to tabulate horsebreeding data (non-work related). The court dismissed the indictment. The technical basis for the dismissal was a narrow interpretation of the word "business" in the statute. The court stated that the Board of Education did not conduct a business, and therefore its activities were not governed by the statute. The policy reason for the dismissal was the court's belief that the legislature had not intended to punish every government employee who used the computer for an unauthorized purpose.

Notwithstanding, in *United States v. Sampson*, 6 C.L.S.R. 879 (N.D. Cal. 1978), the court held to the contrary that "the uses of the computer and the product of such uses would appear to the court to be a 'thing of value'". In *Sampson*, defendants were prosecuted under 18 U.S.C. 641 (1982) for unlawfully accessing and using a NASA time sharing computer. The court emphasized that the use of computer time was inseparable from the physical identity of the computer itself.

Although there are commentators in the computer law field who consider that traditional existing statutes are sufficient to successfully prosecute any type of computer crime, to date thirty-four states have

enacted legislation specifically aimed at computer crime. (See Appendix for list of such states and statute numbers.) In most of these states the legislation consists of a free standing statute (e.g., Rhode Island, Illinois, Connecticut, Virginia, Florida). In other states (e.g., Washington, Maine, Massachusetts) the definition of larceny and/or property has been expanded to encompass electronic media. The states which have amended older legislation to include electronic media have really only confronted the concept of property and its application to intangibles. These statutes have not confronted the corresponding concept of theft and its application to deprivation of value, nor its traditional application to dispossession of property. Successful prosecution of computer crimes under these statutes will be hindered if the statutes continue to retain the concept that theft requires dispossession. Requirements of strict construction and due process in the interpretation of criminal statutes may deter courts from liberally interpreting larceny statutes to include the methodology usually employed in computer crime.

On October 12, 1984, Congress enacted into law the "Counterfeit Access Device and Computer Fraud and Abuse Act of 1984." The law amends chapter 47 of title 18 of the United States Code by adding at the end thereof the following: "§1030 Fraud and related activity in connection with computers." (P.L. 98-473, Title II, Ch. XXI, §2102(a), 98 Stat. 2190) This is the first and only federal legislation to date specifically proscribing unlawful behavior by a person using a computer. House testimony given during the bill's debate indicated that most federal prosecution of crimes involving unauthorized access to a computer to obtain valuable information had been brought under federal laws proscribing wire fraud, mail fraud, or interstate transportation of stolen goods. As the above cases have indicated, these prosecutions have not always been successful ostensibly due to the lack of specificity of the statute in relation to the offense prosecuted.

The new statute defines computer as,

"... an electronic, magnetic, optical, electrochemical, or other high speed data processing device performing logical, arithmetic, or storage functions and includes any data storage facility or communications facility directly related to or operating in conjunction with such device, but such term does not include an automated typewriter, or typesetter, a portable hand held calculator, or other similar device."

The main provisions of the new computer crime law primarily address the area of unauthorized access to computers. The statute disallows unauthorized access, as well as authorized access for purposes to which the authority does not extend. An exception to this "other pur-

poses" prohibition is where a person only uses the computer, but does not access files of others (e.g., a person who uses the computer to play games, or balance his checkbook; Congress did not intend to legislate theft of computer time).

A major flaw of the wide-range applicability of this statute is the narrowness of its scope. The statute prohibits the intentional unauthorized accessing of computers 1) operated for or on behalf of the federal government, and where such accessing affects the operation of the government; or 2) to obtain information regarding national defense, foreign relations, restricted data, or financial records from certain financial institutions or from a consumer reporting agency about a consumer; or 3) the modification, destruction, disclosure, or use of information stored in a computer owned by or operated by the federal government. In the House bill that spawned this statute (H.R. 5616), the scope of the protection was intended to include foreign and interstate commerce. Unfortunately this did not become a part of the statute.

The statute also provides sanctions against conspiracy to use unauthorized access. Misdemeanor and felony penalties dependent on the type of information accessed, the value of that information, and the number of previous convictions sustained under this statute are also listed here. The maximum felony penalty is ten years imprisonment and/or a fine of \$10,000. The United States Secret Service is granted concurrent power with the Justice Department to investigate crimes under this statute. The United States Attorney General is required to submit to Congress an annual report for the succeeding three years enumerating the prosecutions under this statute. The legislative history indicates that the House committee on the Judiciary intends to ascertain just how significant this statute will be in deterring computer crime. The American Civil Liberties Union announced soon after the enactment of the statute that it intended to challenge the validity of the statute because of its perception that the law could be used to prosecute government "whistle blowers."

Law alone does not abolish criminal activity. A look at the court-rooms and prisons of this country provides proof of that. Private and public sectors of society must provide impetus for the enforcement of laws in order for law to be effective. Awareness of the need for security in computer data is a first step in implementing such a security program.

Breaching the security of computer data can take many forms. Unauthorized access to a program allows data to be destroyed, copied, or modified. Data transmission lines can be tapped. Of greater im-

portance is the potential for the modification of the system's programmed security processes. In order to implement the laws enacted to prosecute computer crime, security measures must be devised to detect the lawbreaker. Case law reflects that the detection of most of the perpetrators of computer crime is by accident, and not by any deliberate security measure. Detection will be easier when there is an immediate tangible effect of a breach. This ease parallels the impact that the "tangible" factor has in the prosecution of computer crime.

A recent survey of two hundred eighty-three large state and federal government agencies, and private corporations indicated that the average annual individual loss from computer crime ranged from two million dollars to more than ten million dollars. (Report on Computer Crime, Task Force on Computer Crime Section of Criminal Justice American Bar Association, June, 1984.) The study indicated that the greater percentage of these sustained losses was where the computer was the object of the crime. The greater percentage of the perpetrators of these crimes was shown to be persons within the organization. The most influential factor motivating these perpetrators was personal financial gain. The second most influential reason was the intellectual challenge of doing it.

The American Society for Industrial Security (ASIS) has promulgated a listing of specific recommendations for improved computer security. These guidelines are summarized as follows:

- 'separation of knowledge' through division of responsibilities, job rotation, physical isolation, controlled access, logging of stoppages and interruptions;
- written programming instructions with threat monitoring and audit trails built in;
- careful accounting of all input documents;
- periodic changes in access codes and passwords; and
- scramblers and cryptographic applications in data transmission.

Equipment security features cannot be the sole method of deterrence. The education of the public regarding the uses and abuses of computers, and the consequences of any illegal actions with and against computers, must accompany any security plan in order for the plan to be successful. In our society, computer skills are rapidly being developed for school children. The computer is a very powerful tool which must be accompanied by corresponding responsibility. Therefore, society will derelict if it teaches only about potential and does not also teach about consequence.

Deterrence of computer crime can best be achieved by educating the public about the problem, by developing finer equipment security, by enacting laws to give notice of proscribed behavior, and by enforcing those laws.

©1985 Carla Ottaviano Juris Doctor Franklin Pierce Law Center 1985 Member, Connecticut Bar

APPENDIX

| ALASKA | ALASKA STAT. §11.46.985 (1983). |
|---------------|--|
| ARIZONA | ARIZ. REV. STAT. ANN. §13-2301 E, |
| | 13-2316 (1978). |
| CALIFORNIA | CAL. PENAL CODE §502 (West 1984). |
| COLORADO | COLO. REV. STAT. §18-5.5-101, 18-5.5-102 (1984). |
| CONNECTICUT | CONN. GEN. STAT. ANN. §53a-250 to 261 (West 1984). |
| DELAWARE | DEL. CODE ANN. tit. 11, §931 to 939 (1984). |
| FLORIDA | FLA. STAT. ANN. §815.01 to 815.07 (West 1983). |
| GEORGIA | GA. CODE ANN. \$26-9949a to 26-9954a (Harrison 1983). |
| HAWAII | HAWAII REV. STAT. §708-890 to 896 (1984). |
| IDAHO | IDAHO CODE §18-2402 to 2413 (1983). |
| ILLINOIS | ILL. ANN. STAT. ch. 38, §15-1, 16-9 (Smith-Hurd 1983). |
| IOWA | IOWA CODE ANN. §716A.1 to 716A.16 (West 1983). |
| MASSACHUSETTS | MASS. GEN. LAWS ANN. ch 266, §30 (West 1983). |
| MICHIGAN | MICH. STAT. ANN. §28.529 (Callaghan 1981). |
| MINNESOTA | MINN. STAT. ANN. §609.87 to 609.89 (West 1984). |
| MISSOURI | MO. ANN. STAT. §569.093 to 569.099 (Vernon 1984). |
| MONTANA | MONT. CODE ANN. §45-2-101, 45-6-310, 45-6-311 (1983). |
| NEVADA | NEV. REV. STAT. §205.473 to 205.477 |

(1983).

WASHINGTON

WISCONSIN WYOMING

| NEW MEXICO | N.M. STAT. ANN. 30-16A-1 to 30-16A-4 (1984). |
|----------------|---|
| NORTH CAROLINA | N.C. GEN. STAT. §14-453 to 14-456 (1981). |
| NORTH DAKOTA | N.D. CENT. CODE §12.1-06.1-01(3), |
| | 12.1-06.1-08 (1983). |
| OHIO | OHIO REV. CODE ANN. §2901.01(J)(1), |
| | 2901.01(J)(2), 2913.01(E), 2913.01(F), |
| | 2913.01(L) to (Q) (Page 1983). |
| OKLAHOMA | OKLA. STAT. ANN. tit. 21, §1951 to 1956 (West 1984). |
| PENNSYLVANIA | 18 PA. CONS. STAT. ANN. §3933 (Purdon 1983). |
| RHODE ISLAND | R.I. GEN. LAWS §11-52-1 (1981), 11-52-2 TO 11-52-5 (1984). |
| SOUTH DAKOTA | S.D. CODIFIED LAWS ANN. §43-43B-1 to 43-43B-8 (1984). |
| TENNESSEE | TENN. CODE ANN. §39-3-1401 to 39-3-1406 (1983). |
| UTAH | UTAH CODE ANN. §76-6-701 to 76-6-704 (1981). |
| VIRGINIA | VA. CODE §18.2-152.1 to 18.2-152.14 (1984). |

WASH. REV. CODE ANN. §9A.48.100 (1983).

WIS. STAT. ANN. §943.70 (West 1984).

WYO. STAT. §6-3-501 to 6-3-504 (1983).

INTERNATIONAL LEGAL PROTECTION OF COMPUTER PROGRAMS

NICHOLAS PRASINOS*

Copyright © Nicholas Prasinos, 1984 All Rights Reserved

Computer programs¹ represent a unique international asset that requires an enormous amount of investment in time and money to develop, but still can be easily replicated by pirates with a minimal investment.

What is the best way to legally protect computer programs internationally? A dominant form of protection has been via trade secret in the United States. Is this method suitable for protection in other countries? More recently copyright has assumed a larger role in protecting software in the United States because of the microprocessor revolution with its attendant wide distribution of computer programs in object code. Does copyright offer a better means of legally protecting programs internationally?

This answer may be inherent in recent decisions, (Midway Mfg. Co. v. Artic Int'l2; Williams Electronics Inc. v. Artic Int'l Inc.3; Apple v.

^{*}Associate Corporate Patent Counsel, Honeywell Information Systems, Inc.

Programs as used in this paper encompasses any set of instructions used in a computer in order to bring about a certain result with the set of instructions being in any medium (including ROMs) and in any programming language; program descriptions; and supporting material. See discussion infra in this paper re computer operation.

Midway Mfg. Co. v. Artic, Intern. Inc., 704 F.2d 1240, 218 U.S.P.Q. 791 (7th Cir. 1983). The Court held that video games are copyrightable as audiovisual works.

William Electronics Inc. v. Artic Int'l Inc., 685 F.2d 870; 215 U.S.P.Q. 405, 1982. The Court held that computer programs expressed in object code and stored in read-only memory may be copyrighted.

174

Franklin⁴.) These decisions have removed the uncertainty regarding copyright protection for system-type programs and other application-type programs in object code.⁵

Accordingly more and more computer programmers are adopting copyright protection. Are other countries following in the footsteps of the United States in legally protecting software by adopting copyright protection as the dominant form? What few cases have been decided outside the United States vary in their findings from country to country. In a decision in Australia, the Court held that computer programs are not literary works within the meaning of the Copyright Act of 1968. In Germany the Courts are split. The District Court of Munich has acknowledged copyrightability of computer programs in deciding copyrightability of Visicalc. Another court in Germany, the District Court of Mannheim has rejected copyrightability saying that computer programs lack "intellectual-aesthetic content." In Japan, it has been held by the Tokyo District Court that an object code pro-

⁴ Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 219 U.S.P.Q. 113 (3rd Cir. 1983). This case held that computer operating systems software is subject to the protection of copyright laws and confirmed that software distributed in read only memory (ROM) is protectible.

⁵ These decisions apply mainly to system programs directed for machine consumption, i.e. intelligibility to a computer for controlling a computer.

⁶ Apple Computer, Inc. and Apple Computer Australia Pty. Ltd. v. Computer Edge Pty. Ltd. and Michael Guss — Federal Court of Australia, NSW District Registry G130 of 1983.

Because of this decision by the Full Court of the Federal Court relating to the non-copyrightability of computer software, the Federal Government amended the Copyright Act of 1968 as of June 15, 1984 to protect computer software as a "literary work" and further clarifies the scope and nature of that protection. Thus the legal status of computer software in Australia is no longer in doubt.

VisiCorp Inc. v. Basis Software GmbH, Case No. 70 2490/82 District Court of Munich Dec. 21, 1982; GRUR p. 175 et.seq. The District Court of Munich I as a specialized "Court for Copyright Litigation" has for the first time acknowledged the copyrightability of computer programs and also the copyright protection for the particular computer program (VisiCalc) of the plaintiff.

⁶ Case No. 7-0-143/80, District Court of Manheim 1981, Der Betriebsberater (BB) p. 1543.

The District Court of Manheim is also a specialized "Court for Copyright Litigation" possessing exclusive venue for all copyright litigation within the judicial circuit of the Court of Appeals in Karlsruhe, and in its view, programs lacked so-called "intellectual-aesthetic content" associated with works traditionally protected by copyright (even though section 2 of the Copyright Act on which the Court relied does not contain this requirement).

gram stored in a ROM was the act of reproduction. In the United Kingdom, the High Court of Justice in the Chancery Division granted interlocutory relief for injunction on the opinion that copyright under the provisions relating to literary works in the Copyright Act of 1956 subsists in the assembly code program of the game "Frogger." The machine code was derived from the operation of the assembler. In Italy, a Court affirmed a magistrate's conclusion that software can be protected from slavish imitation and then proceeded to hold that the program was not slavishly imitated. In France, the Court of Appeals in Paris affirmed a lower court judgment by which a computer program was held copyrighted. It is amply obvious that reliance solely on copyright law for international protection is not adequate. Copyright law, moreover, protects the expression of the idea and not the idea itself; whereas trade secret law may protect the idea itself.

How about trade secrets? The law of trade secrets and know-how or the law of confidence for the protection of software is in greater disarray. For example, in Japan, there is no provision in the civil code for civil remedies against unauthorized disclosure or misappropriation of trade secrets or know-how and accordingly a plaintiff would

- Sega Enterprises Ltd. v. Richards and Another, July 2, 1983.
 - The defendants admitted that their program was based on that of the plaintiffs but contended that copyright in computer programs per se was not known in English Law. Held, granting interlocutory relief, that under the provisions relating to literary works in the Copyright Act 1956, copyright subsisted in the assembly code program of the game and that the machine code program derived from it was either a reproduction or an adaptation of the copyright work. The computer program in issue was accordingly protected via copyright.
- Atari (Bertolino Bros.) v. Sidam, July 15, 1983. The Court's decision was inconclusive in that it held that software can be protected from slavish imitation, but identified the video games as works which pertains to cinematography in its broadest sense. Hence, it is questionable that if the court faced a pure software case which does not pertain to video games but only to computer processing, that it would hold the same.
- Babolat Maillot Witt v. Monsidur Jean Pachot, Court of Appeals, Nov. 2, 1982. In this case the court expressed the view that a computer program is an original work, and such work may involve choices between many modes of expression, and said choice is personal.

⁹ Taito K.K. v. K.K. I.N.G. Enterprises, December 6, 1982, Hanrei Jiho (No. 1060), Case No. (wa) 10867/1979.

The case involved the exact duplication of a ROM of plaintiff's "Space Invaders Part II" video game, and the Court held that duplication of an object program in ROM (Read Only Memory) was a reproduction because it is fixed in ROM and transferable from one ROM to another. But see discussion infra on MITI and new proposed Japanese Copyright Law.

176

have to rely on general tort provisions or criminal penalties.¹³ In Taiwan there are penal provisions for trademark infringement but not for unauthorized use, divulgence, theft, etc. of trade secrets.¹⁴ In France, Germany, Italy and Switzerland, there is no trade secret concept per se as we know it in the United States;¹⁵ and although there is something analagous to it in the form of manufacturing secrets and commercial secrets, it is not clear whether this branch of the law would protect confidential information without an express agreement. However, in the United Kingdom, Australia and Canada, there are cases that provide guidance in maintaining an action for breach of confidence where no express agreement has been entered into.¹⁶

How about patent law as a means for protecting programs per se since patent law protects a novel idea when reduced to practice? It may come as a surprise to many that despite the Supreme Court deci-

Intangible trade secrets and know-how are not generally considered as "real" or property rights in terms of the Civil Code classification rights. See Articles 85, 86 and 175 of the Civil Code (Law No. 89 of 1896, as amended and Law No. 9 of 1898, as amended.)

Additionally, Article 709 of the Civil Code sets out generally tort principles which permits recovery of damages for negligent injury to the right of another. In "The Intellectual Property Law of Japan" Sijthoff & Noordoft 1980 p. 87, there is strong arguments that the owner of trade secrets can recover damages under Article 709 on the theory that "injury of right" should be interpreted to mean existence of "illegality" in the defendant's act.

Taiwanese law does recognize and punishes many of the garden-variety crimes known to Western countries, but no criminal case law involving trade secrets or know-how has been located to date. Moreover the concept of trade secret is not important in Taiwanese law. (Trade Secrets and Know-How Throughout the World, Aaron N. Wise, page 4-9, paragraph 403, page 4-11, paragraph 404.

¹⁵ Trade Secrets and Know-How Throughout the World, Aaron N. Wise, Vol. 1-5 (1981 Revision)

The French Civil Code does not have provisions specific to trade secret and know-how. However, the combination of a manufacturing secret and a commercial secret taken together are analogous to Anglo-American trade secrets. Wise, Vol. 3, p. 3-108.

The German law of trade secrets is determined from case law, and legal writings taken together with the Civil Code (BGB) and the Commercial Code (HGB). The law recognizes industrial and commercial secrets. Wise, Vol. 3, pps. 4-9 to 4-109.

In Italian law there is also industrial and commercial secrets which are enforced by Article 622 and 623 of the Penal Code. Wise, Vol. 4, pps 5-7 to 5-111.

¹⁶ Trade Secrets and Know-How Throughout the World, Aaron N. Wise, Vols. 1-5 (1981 Revision).

sions of Bradley¹⁷ and Diehr,¹⁸ there are no decisions in any country, of which the author is aware, that hold programs per se comprise patentable subject matter. In Bradley¹⁹ it was held: "... the invention is a combination of tangible hardware elements — a machine — including some hardware elements which contain microprogram information termed 'firmware'." In Diehr²⁰ the Court held: "A claim drawn to subject matter otherwise statutory does not become non-statutory simply because it uses a mathematical formula, computer program, or digital computer." Does this eliminate patent law as a viable means of protecting computer programs per se?

Add to the above complexity of laws, the complexity of software itself and its distribution which may be in a variety of forms, such as: (1) printed programmer's manual; (2) printed program listings; (3) source tapes, files, or source punch card decks; (4) object tapes, files or object decks; (5) ROMs, etc., and the task of legally protecting software internationally becomes formidable indeed.

Despite the complexity of laws and their inconsistency throughout the world and the complexity of computer programs per se, meaningful cost-effective legal protection of computer programs can be obtained throughout the world to satisfy the requirements of business, investment, and the free flow of trade. This can be done by the proper utilization of the individual copyright laws of each country in conjunction with the Universal Copyright Convention,²¹ the Berne Convention²² or individual bilateral treaty.²³ These are supplemented by the law of confidence or trade secrets, where applicable, or by express contract. However to grasp the techniques necessary for effective legal protection of computer programs a review of some of the basics comprising the technology of computer programs and some of the basics of copyright law and trade secret law is essential.

¹⁷ In re Bradley, 600 F.2d 807; 202 U.S.P.Q. 480, C.C.P.A., July 5, 1979, 209 U.S.P.Q. 97 (S.Ct. 1981).

¹⁸ Diamond v. Diehr, 101 S.Ct. 1048, 209 U.S.P.Q. 1 (1981).

¹⁹ See Bradley supra, note 17.

²⁰ See Diehr supra, note 18.

²¹ See Worldwide Protection of Computer Programs by Nicholas Prasinos, Rutgers Journal of Computers and Law. Vol. 4, No. 1 (1974) pps. 70-76.

²² Id.

²³ Id.

THE NATURE OF COMPUTER PROGRAMS

A basic computer system comprises the following essential functional units:

- (1) input devices,
- (2) control devices,
- (3) a central processing unit,
- (4) storage,
- (5) output devices, and
- (6) software.

The most common type of input device utilized today for entering program instructions and data into the system is the computer terminal comprising a keyboard and a cathode ray tube which displays the data and instructions as they are entered into the computer.²⁴ Some other input-type devices include: magnetic tape and card readers.²⁵ Data and instructions are entered into the computer, stored temporarily in main memory and then are transferred and semipermanently stored on magnetic disks or other archival-type storage.²⁶ Magnetic disks are generally utilized as archival storage and have the capacity for storing large quantities of information or programs not in the process of being executed by the central processing unit.

A main memory, generally consisting of MOS (metal oxide semiconductors²⁷) stores instructions and data in coded signal format which are available to the central processing unit of the computer.²⁸ The central processing unit sequentially executes instructions for processing information/data received from the main memory.²⁹ To make effective use of the computer's enormous speed and throughput, instructions of a program controlling the computer operations are generally loaded into the main memory in groups or blocks.³⁰ Information is also loaded into main memory in large blocks. Hence, instructions and data can be supplied to the central processing unit at the tremendous speed that it requires them.

²⁴ Information Processing, Marilyn Bohl, 1980, Third Edition, pps. 96-133.

²⁵ Id.

²⁶ Id. at 136-163.

²⁷ Id. at 136-152.

²⁸ Id. at 166-185.

²⁹ Id.

³⁰ Id. at 188-196.

Output devices of a computer system makes the results of the system known to the user or they may store instructions or data in archival-type memory. Such output devices may comprise CRT displays, printers, magnetic tapes and disks, or punch cards.³¹

Since main memory components are relatively expensive, they are not cost effective for use in an archival-type memory. Accordingly, main memory is much smaller and must constantly be updated with blocks of instructions comprising computer programs and data stored on magnetic disks or other type of archival memory.³² The significance (see Legislative History of United States Copyright Law³³) is that instructions and data in main memory may be ephemeral and are constantly being overwritten by new instructions or information as required.

No matter how sophisticated the hardware of the computer system may be, it is useless unless a series of instructions or commands (i.e., a computer program) tell it what to do. Because the instructions or a program communicate with a machine, a program can be included in firmware and can be viewed as an extension of a machine, and in the extreme is a machine itself, which is not copyrightable subject matter.³⁴ However, computer programs as defined in Section 101 of Title 17 of the United States Code³⁵ are the express subject of copyright. Accordingly, at this point, it is helpful to review a typical program (be it software or firmware) from the point of creation and trace through the intellectual activity required to convert an idea into an intellectual work which qualifies for copyright protection.

Like any other form of intellectual expression, a program starts as an idea. An oil painting, whether in abstract or traditional form, begins with the idea in the mind of the artist. It is intellect that causes the artist to combine colors in a certain way so as to tangibly fix his artistic creation on canvas. However, before the artist converts an

³¹ Id. at 96-133.

³² Id. 136-162; 356-381.

Report No. 94-1476, House of Representatives, 94 Congress, 2nd session, pps. 52-53.
"The idea of fixation excludes purely evanescent or transient reproduction..."
Since data and instructions in main memory are constantly being overwritten, by new instructions or information, they are not eligible for Copyright protection unless they are tangibly fixed elsewhere such as in discs, or magnetic tape, etc.

In re Bradley and Franklin, 600 F.2d 807 (C.C.P.A. 1979). Opinion held that firmware may be part of machine and part of patentable apparatus. See also Plaintiff's Brief in Diamond v. Bradley, 101 S.Ct. 1495 (1981).

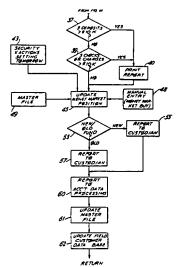
³⁵ Title 17, U.S.C. Copyrights, October 19, 1976, as Amended December 2, 1980 (94 Stat. 3028-29).

idea to tangible form, the artist may go through several possible sequences of steps. Picasso, for example, first used to make pencil sketches in black and white; then he would make several sketches in color pencil before finally fixing his idea on canvas which is the final expression of his idea. He might even make an intaglio impression in stone from which a print is derived. It is obvious that the tangible result of each such step, including the final canvas or print, constitutes a copyrightable work.³⁶

A computer programmer also undergoes a series of steps, each requiring an intellectual expression before his idea finds final expression in creating a computer program. A programmer has also created a copyrightable work in a different medium, and although it may have utility, it is no less an artistic or literary creation having at least a modicum of originality.³⁷

The first tangible form of expression that a programmer uses in expressing his idea is to make a flow chart which expresses in schematic representation the logic of his thoughts. The flow chart expresses his thoughts at a very high level.³⁸ At this level it really de-

³⁸ A portion of a typical flow chart for a securities brokerage-cash management system is shown below.



³⁶ Id. Paragraphs 102-106, subject matter of copyright.

³⁷ Mazer v. Stein, 347 U.S. 201, 100 U.S.P.Q. 325 (1954). See also Nimmer on Copyright, Paragraphs 2.01[B], 2.05[D], 2.06[F], 2.08[A]3, 2.08[B][2], 2.08[C][2], 2.08[E][1], 2.08[G][3], 2.10[A][2] and 3.03.

scribes the idea upon which the program being contemplated is based, but it is not the idea itself. Another phase of intellectual activity that is experienced by the programmer is when the programmer translates the flow chart into instructions utilizing a programming language which is intelligible to human beings. This is the first fixation of his actual program. There are many of these types of languages, such as FORTRAN, COBOL, BASIC, which are known as high level languages.39 These high level languages are generally independent of the particular computer on which the program is to execute and therefore make the resulting program highly transportable from computer to computer. Programs can also be written in an assembly language which more closely corresponds to the individual machine operations which must be performed by the computer in executing the program. Assembly languages are known as low level languages because they are written in a language that the computer understands and result in programs which cannot be easily moved from computer to computer because of differences in available machine operations.⁴⁰

The program which results from translating the flow chart into a programming language intelligible to human beings is generally known as a source code program. The word "source" indicates that it is original code of the program. Before this source code program can be entered into a computer, it must be placed on a different medium, such as disks, tapes, Holerith cards, tet. or entered into a computer by a terminal keyboard. The program is then transferred from any of these media to main memory and from there transferred onto disks or tapes for storage. The source code program in this state, however, although intelligible to humans, is usually translated into a language more easily (speedily) executed by a machine. This is accomplished by a translation program, known as a compiler or an assembler

³⁹ Information Processing, Marily Bohl, Third Edition, pps. 300-331.

High-level language statements closely resemble English-language statements. FORTRAN is the oldest and serves best the needs of engineers and scientists. (p. 312) COBOL is designed primarily for writing business programs. (p. 315) BASIC is an easy-to-learn programming language that students could use to solve simple problems in many subject areas. (p. 321)

⁴⁰ Id. at p. 300, and pps. 334-353.

⁴¹ Source code is generally written in a high level language intelligible to human beings but not generally to a machine. Source code must generally be translated to machine code by a program known as a compiler or translator or interpreter.

⁴² See note 39, supra, at pps. 70-74, 86-113.

⁴³ Id. at 76-80.

program.⁴⁴ The source code is then said to have been compiled or assembled into object code, which is a form that the computer can execute more quickly because the symbology which makes the program more easily understandable to humans has been translated into a series of numbers referring to either machine operations or storage locations which are more directly executable by a computer. This object code program may then be stored in an archival-type of memory (mass storage).⁴⁵ In utilizing this program in object code, a computer will call all or portions of it, as needed, into the computer main memory from which it can be rapidly accessed by the central processing unit and utilized for processing information.⁴⁶ In the case of firmware, the object code may be stored directly in main memory or in ROMs so that it is always available for execution.⁴⁷

There are also programs known as interpreters which allow programs written in a source code language, such as BASIC, to be executed directly.⁴⁸ When an interpreter is used, the computer program executes more slowly, because each time a source code instruction in the program is executed, it must be translated into a machine operation so that an instruction within a loop will be translated each time the loop is executed; whereas if the program were first compiled from source to object code, the instruction would be translated once to object code and the object code executed once each time the loop is executed.⁴⁹

Are Computer Programs Appropriate Subject Matter for Copyright Under the Various Laws Throughout the World?

Because of a host of decisions in the United States involving the copyrightability of various aspects of computer programs, it is now axiomatic that U.S. Copyright Law⁵⁰ will protect a computer program

⁴⁴ Id. at pps. 336-352; at 346.

⁴⁵ Id. at pps. 152-162.

⁴⁶ Id. at pps. 136-152.

⁴⁷ Microprogramming: Principles and Practices, by Samir S. Husson, p. 82.

⁴⁸ See note 24. p. 321. BASIC was designed primarily for interactive (conversational) computing.

⁴⁹ Id.

⁵⁰ (a) See notes 2, 3, 4, supra.

⁽b) The text of H.R. 6934, which was introduced March 26, and referred to the Judiciary Committee reads as follows:

Section 1. This Act may be cited as the Computer Software Copyright Act of 1980.

in its various aspects including system programs and programs in object code.⁵¹

A review of the laws of the major industrial countries of the world, a summary of which is appended herewith as Appendix I, indicates that there is unanimity in that literary, artistic or musical works are protectible via copyright; i.e., aesthetic intellectual expression.⁵²

Section 2. Section 101 of Title 17 of the United States Code is amended to add at the end thereof the following new language:

"A computer program is a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result."

Section 3. Sections 117 of Title 17 of the United States Code is amended to read as follows:

Paragraph 117: Limitations on exclusive rights: computer programs. Notwithstanding the provision of Paragraph 106, it is not an infringement for the owner of a copy of a computer programmer to make or authorize the making or another copy or adaptation of that computer program provided:

- 1. That such a new copy or adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner, or
- 2. That such new copy or adaptation is for archival purposes only and that all archival copies are destroyed in the event that continued possession of the computer program should be rightful.

Any exact copies prepared in accordance with the provisions of this Section may be leased, sold or otherwise transferred, along with the copy from which such copies be leased, sold or otherwise transferred, along with the copy from which such copies were prepared, only as part of the lease, sale or other transfer of all rights in the program. Adaptations so prepared may be transferred only with the authorization of the copyright owner."

- 51 (a) See note 4, supra.
 - (b) S & H Computer Systems, Inc. v. SAS Institute, Inc., 568 F.2d 416, 222 U.S.P.Q. 715 (M.D. Tenn 1983); Midway Mfg. Co. v. Artic Intern. Inc., 704 F.2d 1009, 218 U.S.P.Q. 791 (7th Cir. 1983); Videotronics Inc. v. Bend Electronics, 564 F.Supp. 471, 223 U.S.P.Q. 296 (D. Nev. 1983); Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 219 U.S.P.Q. 113 (3rd Cir. 1983); and Apple Computer, Inc. v. Formula International, Inc., 562 F.Supp. 775, 218 U.S.P.Q. 47 (D. Cal. 1983).
- (a) In Australia, copyright subsists in an original literary, dramatic, musical or artistic work for a qualified person. Copyright Act 1968, as amended up to May 7, 1982.
 - (b) In Canada, copyright subsists in every literary, dramatic, musical and artistic work of a Canadian subject. Copyright Act, R.S., c 32, s. I. (1952), as amended up to December 23, 1971.

Beyond that, some countries specifically recognize scientific works as the subject matter of copyright, 53 whereas other countries view them as falling under the general category of literary works. 54 Implicit also in the law of the majority of countries is that works must be of one or more than transitory duration and tangibly fixed. 55 The U.S. separates sound recordings and cinematographic subjects out of "works" and provides separate treatment for them. Implicit also in the various laws is that works subject to the copyright laws must pertain to the aesthetic realm rather than the utilitarian domain. Most countries have their counterpart in $Baker\ v.\ Selden, ^{56}$ which held that copyright law embraces those things which are printed and published for information and are not for use in and of themselves. Whereas $Baker\ v.\ Selden, ^{57}$ cast serious doubts as to the copyrightability of computer-

- (c) In France, copyright subsists in intellectual works created by authors; i.e., books, pamphlets and other artistic, literary and scientific writings, musical compositions without words;... Copyright Statute (1957) Law No. 57-298 on Literary and Artistic Property.
- (d) In Germany, copyright subsists in author's literary, scientific and artistic works (i.e., personal, intellectual, creations). Copyright Statute, An Act Dealing with Copyright and Related Rights, 1965.
- (e) In Italy, copyright subsists in intellectual works having a creative character and appertaining to literature, music, the graphic arts, architecture, the theatre, and cinematography, utilizing their mode or form of expression. Copyright Statute, Law No. 663 of April 22, 1941, for the Protection of Copyright and Other Rights Connected with the Exercise Thereof, as amended up to July 29, 1981.
- (f) In Japan, copyright subsists in a production of an author in which thoughts or statements are expressed in a creative way and which falls within the literary, scientific, artistic or musical domain which is first published in Japan. Copyright Law, Law No. 48 of 1970, as amended up to May 18, 1978.
- (g) In the United Kingdom, copyright subsists in every original literary, artistic, dramatic or musical work of a qualified person first published in the U.K. or Convention Country. Copyright Statute (1956), as amended up to February 17, 1971.
- (h) In South Korea, copyright subsists in scientific and artistic works that promote the development of natural culture. Copyright Statute (1957), Law No. 432 on Copyright.
- 53 Id. see notes (c), (d) and (h).
- 54 (a) Id.
 - (b) See also note 33, supra.
- 55 Id. U.S., Canada, France, South Korea. Some countries, i.e., France, Germany, South Korea, recite examples that implies tangible fixation.
- 56 Baker v. Selden, 101 U.S. 99 (1879).
- 57 Id.

coded programs when fixed in magnetic tapes, disks, punch cards, ROMs, the emergence of the 1976 Copyright Act⁵⁸ and the several cases⁵⁹ which have recently been decided have resolved this concern in favor of copyrightability of programs in such media. Despite the above it is still doubtful whether U.S. Copyright Law protects against use of a program in a computer; i.e., execution of a program as distinguished from making a copy of the program. In other words, those cases decided to date indicate the validity of the role of copyright in protecting programs in all its forms and all explicative material. However, there are no cases of which the author is aware which hold that the running of a program in the computer; i.e., execution of the program, infringes a claim of copyright.

Viewed in the light of what computer programs are and of the various forms in which they may exist and bearing in mind the subject matter eligible for copyright protection under the various international copyright laws, it becomes apparent that some aspects of computer programs may be legally protectible via copyright when fixed in certain format. Obviously any program having originality, tangibly fixed in books, catalogs, instruction manuals, or computer listings are subject matter of copyright. Of Moreover since in the majority of countries the author or owner of a copyright has the right to adapt or translate his work, programs fixed in such media as magnetic disks or drums, ROMs, or diskettes, may be protectible under the translation rights granted to an author or owner of the copyright.

In the United Kingdom it is generally accepted that computer programs are literary works, and in SEGA Enterprises Ltd. v. Richards, 62 it was held that the machine code was derived from the operation of the assembler and therefore copyright subsists in the object or machine code program. In Japan the thought of an author being manifested in various combinations of instructions are considered literary works and in Taito K.K. v. K.K. I.N.G. Enterprises, 63 it was held that an object code program stored in a ROM was an act of

⁵⁸ See note 35, supra.

⁵⁹ See notes 2, 3, 4 and 51, supra.

⁶⁰ Such original programs generally are written in COBOL, FORTRAN, BASIC, etc. (i.e., human comprehensible statements) and would be included as a literary work.

The following major industrial countries have adaptation or translation rights under Statute supra: Australia, Canada, Italy, Japan, South Korea, United Kingdom.

⁶² Sega Enterprises Ltd. v. Richards and Another, July 2, 1982.

⁶³ Taito K.K. v. K.K. I.N.G. Enterprises, December 6, 1981, Hanrei Jiho (No. 1060).

reproduction. The United Kingdom Copyright Act of 195664 has been extended to Hong Kong,65 and accordingly most comments regarding the United Kingdom are applicable to Hong Kong. Substantiating this is the case of Atari Inc. 66 However in Australia which subscribes generally to the laws of the United Kingdom and has adapted its Copyright Laws from those of the United Kingdom, it was held that where software is in the nature of a literary work and source code is reduced to visible form and conveys meaning or instruction to the reader, it would be protectible under the Copyright Law. 67 However, it was held in Apple Computer Inc. v. Computer Edge Pty. Ltd. 68 that the program was in object code and was therefore meaningless. It appears that in Canada, software in human-readable form may be subject to copyright.⁶⁹ In Italy, at least one case has held that software can be protected from slavish imitation (Atari v. Sidam70). Also in France, it has been held in a recent case that a computer program is an original work and a translator may choose between many modes of translation and the choice is personal.71 In Germany, one court of copyright litigation acknowledges the copyrightability of computer programs⁷² whereas another court for copyright litigation did not, holding that computer programs lack intellectual-aesthetic content, although aesthetic content is not a requirement under German copyright law.73

⁶⁴ United Kingdom, Basic Act, November 5, 1956; Copyright Statute, 4 and 5 Iliz. II, Ch. 74; of Amendatory Act of October 25, 1968, Eliz. II, 1958, Ch. 68; of February 17, 1971, Eliz. II, 1971, Ch. 4. United Kingdom (Territories): Item 3A, Copyright (Hong Kong) Orders 1972 and 1979, Official text of principal Order published in Statutory Instruments, 1972, No. 1724; of amendatory Order in Statutory Instruments, 1979, No. 910.

⁶⁵ I.A

Atari Inc. and Others v. Video Technology Ltd. and Others, Civ. App. No. 117 of 1982.

Here, an interlocutory injunction was obtained on the basis of alleged infringement of copyright claimed to subsist in the program for "PAC-MAN."

⁶⁷ See note 6, supra.

⁶⁸ Apple Computer, Inc. and Apple Computer Australia Pty. Ltd. v. Computer Edge Pty. Ltd. and Michael Guss — Federal Court of Australia, NSW District Registry G130 of 1983. See also note 6, supra.

⁶⁹ See note 55, supra.

⁷⁰ See note 11, supra.

⁷¹ See note 12, supra.

⁷² Note 7, supra.

⁷³ Note 8, supra.

It can be seen generally, therefore, that the trend throughout the major industrial countries of the world is to hold computer programs protectible under the Copyright Law even though their Copyright Law does not specifically refer to computer programs as being subject matter protectible by copyright. The basis of this view is generally to categorize computer programs as literary works and treat them no differently than books. The trend also appears to be to extend protectibility of copyright programs by recognizing the author's or copyright owner's right to an adaptation or a translation of the work. However, a good number of decisions regard object code as protectible even though the language is not easily intelligible to human beings and is primarily intended to be intelligible to a machine.74 This reasoning impliedly accepts the notion that computer programs in any format require intellectual effort for their creation and the author is free to choose whatever language he chooses to express that intellectual creation.

Despite the various differences of the copyright laws, it appears that the copyright laws of the different countries are developing in such a way as to afford legal protection of computer programs throughout the world. But as has been seen, supra, the execution of a program or the idea on which the program is based is not protectible in any country under the copyright laws.75 Yet many programs, particularly those in source code, may disclose the idea upon which the program is based. 76 Since copyright law merely protects the expression of the idea, valuable rights representing millions of dollars of investment in developing a program can still be lost to one who obtains the idea from source code and then utilizes his own expression of the idea and thus legally short circuits the enormous investment in time and money for developing a particularly valuable computer program.⁷⁷ Is there anything that can be legally done to prevent someone to "reap where he has not sown?" This leads to another avenue of world-wide law to be explored — the law of confidence, trade secret and know-how.

Note 1 See notes 4 and 51, supra.

Copyright protects the expression of the idea not the idea itself. Nimmer on Copyright, Paragraph 203[D].

⁷⁶ A flow chart of a program may disclose an algorithm or the basic idea on which a program is based.

Since ideas are not protected by copyright, anyone who lawfully obtains an idea can express it in his original way not protected by copyright.

Protection of Computer Software Under the Law of Confidence and Trade Secrets and Know-How

A country-by-country summary of trade secret law of some of the major industrial countries of the world is briefly discussed in Appendix II of this paper. In general, the law of confidence or trade secret and know-how falls into three major categories as follows:

- (A) Those countries like the United States, United Kingdom, Australia, Canada and other Commonwealth nations that are basically common-law countries:
- (B) Those countries like Germany, France, Italy, Switzerland, that are civil-law countries; and
- (C) Those countries such as Japan, South Korea, Taiwan, which fall somewhere in between.

Regardless of the diverse and non-uniform laws regarding confidential information, trade secrets and know-how, there is a general unanimity in that technical information (i.e. know-how) may be the legitimate subject of a license agreement in most major industrial countries. The requirement of secrecy, however, varies from country to country. In the United States, Germany, the European Economic Community and in Japan, secrecy is an important element for licensing know-how or technical information. On the other hand, a license agreement covering non-secret know-how in England, France and Italy would be valid. There is an apparent discrepancy between the laws of the EEC and some of its member countries which do not re-

⁷⁸ See International Trade Secret Protection: A Comparison of Laws for International License Agreement (February 21, 1983), Leo F. Costello, pps. 262-265. Protecting Trade Secrets, 1983, by Practicing Law Institute.

^{79 (}a) In the U.S. for transfer of technical information to constitute legal subject matter for a license, the information must have some degree of secrecy. Kewanee Oil Company v. Bicron Corp., 416 U.S. 470 (1974).

⁽b) Under German law secrecy is very important in protecting licensable information. Wise, *supra*, Vol. 3, pages 4-173. See also Paragraph 20(2) of Gesetz Gegen Wettbewerbsbeschrankungen (GWB).

⁽c) Secrecy of licensable information is important in the EEC. Burroughs Delphanque, CCH Common Market Reporter, Paragraph 9485; and Kabelmetal-Luchaire, CCH Common Market Reporter, Paragraph 9761.

⁽d) In Japan a license agreement can be rescinded if licensed information is not secret. Wise, supra, Vol. 1, pages 1-140, 141.

⁸⁰ In England and Italy — secrecy is not required. Wise, supra, Vol. 2, page 2-24 and Vol. 4, pps. 5-24, 5-223.

Also in France non-secret processes may be licensable. Societe Almes c D, the Bottonificio Fossanese, Cited in Wise, supra, Vol. 3, p. 3-219.

quire secrecy as an essential element in the subject matter of a technical license.⁸¹ It has been suggested that this apparent discrepancy may be reconciled between the two laws if there was no misrepresentation as to secrecy and if the non-secret information does not have a perceptible effect on EEC trade and commerce.⁸²

Most common-law countries have substantially the same basic concept regarding the law of confidence, trade secrets and know-how. In some decisions, the definition of trade secrets in accordance with the Restatement of Torts, Section 757,B,1959 has been referred to even though generally there is no one definition which is universally accepted. It is helpful, therefore, to review briefly this definition. In accordance to the Restatement of Torts, a trade secret may consist of:

"Any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. The subject matter of a trade secret must be secret... so that, except by the use of improper means, there would be difficulty in acquiring the information. An exact definition of a trade secret is not possible.

Some factors 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;
- the extent to which it is known by employees and others involved in his business:
- 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;
- the amount of effort or money expended by him in developing the information;
- the ease or difficulty with which the information could be properly acquired or duplicated by others."

In common-law countries there are three major factors to be considered for a plaintiff to have an action against a defendant based on the law of confidence or trade secret as follows:

- (A) There must be a confidential relationship.83
- (B) There must be a contractual relationship or other fiduciary obligation arising in equity.⁸⁴
- (C) The information must have been misused.85

⁸¹ See notes 79 and 80, supra.

⁸² See note 78, supra.

^{83 1983} Trade Secret Law Handbook, by Melvin F. Jager, p. 92.

⁸⁴ Id.

⁸⁵ Id.

- (A) Although neither novelty nor uniqueness is a requirement for trade secret protection, Courts granting trade secret protection typically find that the subject matter was "sufficiently novel." Even though the sale of a product, for example a computer program, may destroy the confidential relationship if the program is distributed to such an extent that it becomes relatively known in the industry, it is possible to prolong confidentiality by an express contract having a restrictive covenant. 87
- (B) In many countries, which do not recognize trade secret law, a contractual relationship between the parties not to disclose certain information will be honored as a contract between the parties.

What of the situation, however, where an innocent third party acquires confidential information of another without knowing the confidential nature of the information? Obviously, it would be unconscionable to hold such a third party liable. However, the owner of the information may maintain an injunction not to use.⁸⁸

(C) Misuse of information stems from the unauthorized disclosure or from the unauthorized use of the information by a person to whom it has been disclosed under restrictive conditions.

In civil-law countries, such as France, Germany, Italy and Switzerland, the law of trade secret and know-how comprise a combination of (a) a manufacturing secret and (b) a commercial secret, sometimes categorized as (a) an industrial secret and (b) a commercial secret.⁸⁹ Manufacturing secrets pertain to information which has immediate industrial application;⁹⁰ whereas commercial secrets pertain mainly to information involving financial and commercial transactions.⁹¹ Generally theoretical ideas, research, experimentation secrets are not considered manufacturing or commercial secrets.⁹²

⁸⁶ Structural Dynamics Research Corporation v. Engineering Mechanics Research Corporation, 401 F.Supp. 1102, 117 (E.D. Mich. 1975).

⁸⁷ Here the Court held that confidentiality was not destroyed by leasing machines to the public on condition that their customers should not look inside them or seek to find out how they worked.

⁸⁸ In Prince Albert v. Strange, 1849, 1 HA. and TW. 1, it was held that plaintiff was entitled to an injunction against a third party because of misuse of confidential information.

⁸⁹ Trade Secrets and Know How Throughout the World, Aaron N. Wise, Vol. 1-5.

⁹⁰ Id.

⁹¹ Id.

⁹² Id.

Generally the term "confidential information" has no legal significance except in some countries where it refers to the U.S. equivalent of insider information that is utilized in public trading of a corporation's stock. It becomes immediately apparent from a brief review of summaries of the law (Appendix II) regarding trade secrets and know-how in civil countries, including Japan, Korea and Taiwan, that the best way to protect the type of confidential information which is embodied in a computer program is by an express contractual agreement.⁹³

Where applicable under the laws of the various countries such as the United States and other common-law countries, human-readable source code listings or program instructions may be protected via trade secret.⁹⁴ Additionally trade secret rights can subsist for information recorded on magnetic tape (see ComShare⁹⁵) or in main memory or random access memory of a computer.⁹⁶ Since confidentiality has been generally held in common-law countries to be one of the elements universally required to maintain a trade secret type action,⁹⁷ a proliferation of trade secret disclosures even when made in confidence can destroy the trade secret right.⁹⁸ In most countries of the world relative secrecy (i.e., limited distribution) is the essential ingredient and not absolute secrecy.⁹⁹ The Court further noted that copyright notice is not conclusive of publication and distribution for

⁹³ Most countries including the EEC honor lawful agreements between parties provided it does not impose an unreasonable restraint on trade.

OmShare Inc. v. Computer Complex Inc., 338 F.Supp. 1229, 1223 (E.D. Mich. 1971); University Computing Company v. Tykes-Youngstown Corp., 504 F.2d 518 (5th Cir. 1974), and Cybertek Computer Products, Inc. v. Whitefield et al, 203 U.S.P.Q. — BNS 1020, 1977.

⁹⁵ ComShare Inc. v. Computer Complex Inc., 338 F.Supp. 1229, 1223 (E.D. Mich. 1971).

⁹⁶ Ward v. Superior Cord, 3 Computer L.Serv.Rep. 206 — California Superior Court 1972.

⁹⁷ Legal Protection of Software and Trade Secrets, Richard H. Smith and E. Robert Yoches; APLA Quarterly Journal, Vol. 8, No. 3, 1980, p. 247-248.

⁹⁸ *[d*

⁹⁹ (a) *Id*. at p. 250.

⁽b) The Court upheld Data General's trade secret rights despite the fact that disclosure of the confidential information was made to a large number of Data General customers.

⁽c) The Court refused to hold that the plaintiff's program was published even though MSA had confirmed its intention to preserve its statutory common law copyright under the 1909 Copyright Act and that some 1300 programs were licensed to customers.

documentation where the plaintiff had no intention to preserve its trade secrets in its payroll system. In a more recent case the U.S. Court of Appeals for the Seventh Circuit held that a statutory copyright notice does not estop a party who affixes that notice from claiming a trade secret right to those documents.¹⁰⁰

It would appear from the foregoing and from the nature of computer programs in their various manifestations that trade secret is not mutually inconsistent with copyright in protecting computer programs. Despite the antithetical nature of the two types of protection — one requiring secrecy; whereas the other requires disclosure — because of the idea/expression dichotomy one can rely on both laws simultaneously to protect different aspects (forms) of a computer program.

Mechanism of Acquiring Legal Protection for Computer Software Outside of the United States

We have thus far seen that there is an apparent established trend in most industrialized nations of the world to grant copyright protection to the intellectual expression inherent in computer software. ¹⁰¹ In all probability the copyright laws throughout the world will continue to develop along these lines. How then can a national of one country obtain copyright protection under the copyright laws of another country?

Most of the industrialized nations of the world and some of the lesser-developed nations belong to one of the two major copyright conventions, and some to both copyright conventions. Under these conventions published, or unpublished, works of nationals or works first published in a member country, enjoy in all other countries, the rights which the respective laws of those countries now, or hereafter,

⁽d) The Court further noted that copyright notice is not conclusive of publication and distribution for documentation where the plaintiff had an intention to preserve its trade secrets in its payroll system.

Technicon Medical Information Systems v. Green Bay Packaging, 687 F.2d 1032, 215 U.S.P.Q. 1001 (7th Cir. 1982).

There the Court held that merely because a copyright notice was present on the computer program, trade secret law was not preempted by copyright law since copyright law protects the form of expression but not the underlying ideas and accordingly Federal Copyright Law is incapable of providing equivalent protection.

¹⁰¹ See notes 2, 3, 4 and 51, supra.

¹⁰² See Legal Protection of Software via Copyright by Nicholas Prasinos, APLA Journal, Quarterly, Vol. 8, No. 3, 1980, pps. 270-272.

¹⁰³ Id.

may grant to their nationals or to works first published in their country. 104

There exists now two major copyright conventions which grant reciprocal rights to member countries. One is the Berne Convention;¹⁰⁵ whereas another is the Universal Copyright Convention.¹⁰⁶ The Berne Convention is the oldest and has the largest number of members.¹⁰⁷ No formalities as to registration or copyright notice is required for acquiring protection under the Berne Convention.¹⁰⁸ Any published, or unpublished, work is afforded copyright protection in all member countries upon acceptance of the work.¹⁰⁹

The other major convention is the Universal Copyright Convention (UCC). Under the Universal Copyright Convention, an appropriate copyright notice is required in order to obtain copyright protection in all UCC member countries. The appropriate notice in this instance is a ©, with the name of the copyright owner and the date of first publication, placed in such manner and location as to give reasonable notice of claim of copyright. The universal Copyright Convention of the copyright convention of the copyright of the copyright convention of the copyright of the copyright convention of the copyright convention of the copyright of the copyright convention of the copyright of the copyright convention of the copyri

There are other minor international conventions, such as the Buenos Aires Convention (BAC)¹¹² and the Mexico City Convention.¹¹³ In the Buenos Aires Convention, there are some formalities one requiring a reservation clause. In additon to these conventions, individual countries have entered into bilateral treaties with each other.¹¹⁴

The United States is a member of the Universal Copyright Convention, 115 but not of the Berne Convention. 116 Most other in-

¹⁰⁴ Id.

¹⁰⁵ Id.

¹⁰⁶ Id.

¹⁰⁷ Id. See also 52 Berne Convention, Article 4(2) (Brussels Text).

¹⁰⁸ Id

¹⁰⁹ 52 Berne Convention, Article 4(2) (Brussels Text).

The Law of Copyright under the Universal Convention, by Arpad Bogsch, Third revised edition, second printing, 1970.

¹¹¹ UCC, Article 3(1).

Worldwide Protection of Computer Programs by Copyright, by Nicholas Prasinos, Rutgers Journal of Computers and the Law, Vol. 4, No. 1 (1974), p. 72.

¹¹³ Id.

¹¹⁴ Id.

¹¹⁵ Id.

¹¹⁶ Id.

dustrialized countries of the world are members of both conventions. (See Appendix III for member countries).

Accordingly for any work first published in the United States to obtain protection in other UCC member countries, notice is required. 117 However, a problem arises in regard to affixing the symbol "C" in a circle © to program listings from computer printouts for which worldwide protection is desired. Most computer printers do not have the capability of printing the symbol ©, thus creating the dilemma. This dilemma is resolved by referring to the "Compendium of Copyright Office Practices," Chapter 4, Paragraph 4.2.2, July 1, 1970. One of the symbols listed in that Compendium which the U.S. Copyright Office will accept for registration in lieu of a @ is the "C" enclosed in parentheses i.e. "(C)".118 It is submitted, therefore, that the requirements of the "C" in a circle symbol © may be satisfied by the "C" in parenthesis "(C)" under the principle of reciprocity and universal recognition. (Presumably the symbol © was adopted as a symbol to indicate a claim of copyright because of language difficulties throughout the world. However, if (C) is universally recognized as equivalent to the symbol ©, particularly for computer programs, it would be unreasonable to deny coverage on this technicality. The author is not aware of any cases regarding this matter.

Another requirement of the UCC which could cause uncertainty as to the copyright status of computer programs is set forth in Article 6 as follows:

"Publication, as used in this Convention, means the reproduction in tangible form and the general distribution to the public of copies of a work from which it can be read or otherwise visually perceived."

Does this mean that computer programs distributed on magnetic tapes or disks which cannot be visually perceived are to be treated as copyrighted unpublished works where a claim of copyright is made by affixing the appropriate notice, or does it mean that copyright protection is not afforded to this type of work under the UCC? No definitive answer can be provided at this time. However, because of its farreaching implications regarding programs, a more detailed analysis is warranted in order to reach a conclusion as to the best mode of protecting computer programs. In the first place, Article 6 does not require human intelligibility, but merely visual perception. Moreover, Article 6 does not recite, nor require, direct visual perception. Accordingly if "it can be read or otherwise visually perceived" by

¹¹⁷ Id.

¹¹⁸ Id.

computer or printer means, then the work could be considered as published.¹¹⁹ Even if such interpretation fails and Article 6 is strictly and rigidly interpreted, the worst case condition may be that the distribution of computer programs on magnetic tapes, disks or diskettes, is not a publication and accordingly the work is protectible under the UCC as an unpublished work under the Copyright Laws of the local forum. Perhaps the safest course to follow for protecting computer programs distributed on magnetic tapes, disks or diskettes is to simultaneously publish in a Berne Convention country since the Berne Convention does not impose a visual perceptability requirement.¹²⁰ Since the majority of industrial nations of the world are members of the Berne Convention, this course, although more difficult administratively, would provide effective copyright protection where available for computer programs.

Some Proposed Legislation Throughout the World For Protecting Computer Programs

The need for a uniform means of protecting computer programs throughout the world was recognized as early as 1971 when the United Nations made a request for a study on the best way to protect computer programs which would facilitate access of these programs to developing countries. ¹²¹ A study was subsequently undertaken by An Advisory Group of Non-Governmental Experts meeting in Geneva from 1974 on. ¹²² They determined that there was a special need for the legal protection of computer programs without the need for registration, deposit, or compliance with other formalities and resulted in certain Model Provisions which followed along the lines of existing copyright laws. ¹²³

It is interesting to note the adoption of the Copyright Law as the model or preferred means for protecting computer programs into the

¹¹⁹ Id.

This interpretation finds strength by the interpretation given Article 6 at the first meeting of the Interim Copyright Committee established by the conference which formulated the UCC. The Committee expressed the view that the only purpose of the "visually perceived" requirement was to exclude phonograph records. This interpretation, while not necessarily binding, was persuasive to tribunals called upon to interpret the convention. (see Bogsch, The Law of Copyright under the Universal Convention, 1964).

¹²¹ Simultaneous publication has been held to be within 14 days or within 30 days, depending on the Country and Convention, Article 4(3).

¹²² New York Journal on International Copyright Law, 1981, Vol. II, p. 294.

¹²³ Id.

Model provisions. Although not expressed as such, it is apparent that these experts considered computer programs in their various manifestations as a "tangibly fixed original intellectual expression having at least a modicum of aesthetic content." (Author's definition) It is obvious that computer programs share most of the qualities of works that are protectible under copyright law. The main point of departure and dissent has generally been their quality of utility and lack of aesthetic content. It is submitted, however, that works of utility have their own particular aesthetic content and therefore this requirement should not bar computer programs from being protected under the copyright laws.¹²⁴

Referring to the WIPO Model Provisions on the protection of computer software, it is seen that the definitions of Section 1 are quite comprehensive and include "computer programs, program descriptions, supporting material and computer software."¹²⁵

Another means of protecting computer programs has been proposed by the Ministry of Industry and Trade of Japan (MITI).¹²⁶ To date only Japan appears posed to accept it. Under the MITI proposal the law would:

- (1) Limit protection to only 15 years after the program has been written. 127
- (2) Set up a registration system for programs similar to that used for patents.¹²⁸
- (3) Give MITI power to order compulsory licensing of programs. 129

¹²⁴ Mazer v. Stein, 347 U.S. 201 — 1954.

¹²⁵ Id. at 295. (A copy of the WIPO Model Provisions of the Protection of Computer Software is to be found in Appendix IV.)

New York Journal supra at pps. 296-300. See also Jurimetrics Journal, Summer 1983, pps. 420-421. There it is stated that the WIPO proposals would clarify the scope of coverage and may avoid operation of litigation. Besides preventing copying, it adds "trade secret" concepts; it prevents disclosure of a copy either orally or physically and prevents using the program description to create a "substantially similar" program. It also expressly covers translations by use of computer programs which compile, assemble, decompile, disassemble or cross-compile from one language to another.

¹²⁸ Draft "Program Rights Law," Ministry of Industry and Trade of Japan.

¹²⁷ Id.

¹²⁸ Id.

¹²⁹ Id.

(4) Set up guidelines to require the program owner to disclose some details of the program when sold.¹³⁰

These provisions are particularly onerous to the countries that have a head start in this technology, particularly the compulsory licensing provision.¹³¹

In light of the decided cases¹³² it is the author's opinion that the existing copyright laws of different countries, particularly in view of the decided cases, are progressing in a manner which is adequate for the protection of computer programs.

CONCLUSION

There appears to be no best single legal method for protecting computer programs throughout the world because of the various manifestations of computer programs and because of the non-uniformity of the laws available in different countries to protect computer programs. For programs which will be generally distributed in object code in any media, copyright is emerging as the major form of protection. 133 This protects the owner of copyrights in a program against the copying or adaptation of the intellectual expression of the program, but does not prevent others from using the idea or concept of the program;134 nor does it give the copyright owner an exclusive right to execute the program. 135 These exclusive copyrights are sufficient for the majority of programs widely distributed in the computer trade in object code and in any medium. The formalities of acquiring protection under the copyright laws of the various countries throughout the world depends on the requirements of the local country and the international copyright convention of which it is a member. Since the United States is a member of only the Universal Copyright Convention (UCC), 136 which requires a universally recognized notice, 137 it

¹³⁰ Id.

[&]quot;MITT's intention is to speed the development of Japanese software, one area which Japan lags behind most other industrial nations. To build its software industry, the agency proposes to protect computer software under Japanese copyright laws of 15 years.... Even more important, MITI proposes to give itself authority to force a company to license its software to another if the agency deems it in the national interest." Business Week, February 13, 1984, p. 110A.

¹³² See notes 2, 3, 4 and 51, supra.

¹³³ Id.

¹³⁴ See note 75, supra.

¹³⁵ Execution of a program is not one of the protectible rights of copyright law.

¹³⁶ See notes 102 and 113, supra.

¹³⁷ Id.

is essential that the appropriate UCC copyright notice be affixed to the work.¹³⁸ Use of the UCC notice has the advantage of satisfying any notice requirements of member UCC countries, including the United States.

Programs in source code, although expressions of the work in another language, most easily disclose the idea or concept on which the program is based.¹³⁹ Where it is desirable to protect the idea or concept, the law of confidence or trade secret may be relied upon where available.¹⁴⁰ However, because most European, Asian and South East Asian countries do not recognize the law of confidence or trade secret, and limited remedies are available, express written agreements with nondisclosure provisions must be resorted to.

The recommendations of WIPO for the legal protection of computer programs are far from being ratified and the availability of such alternative protection is still in the distant future.¹⁴¹

As to MITI, it appears that a controversial protection mode is emerging and certainly countries that have a lead in programming technology will reject it and refuse to license their programs in Japan.¹⁴²

According to the Position Paper prepared for the Advisory Council on Japan: 143

"The protection ideally desired for computer software is already available under the copyright laws of major industrial countries. Where the copyright statutes have not clearly provided adequate protection, the courts have interpreted the statutes to include computer software and to extend the necessary exclusive rights to the author. Where necessary, administrative agencies have adapted their rules to provide copyright protection to computer software authors.

Both computer programs and computer programming documentation are within the subject matter protected by the copyright statutes of, for example, the United States, Australia and Japan. This result has been reached by judicial decisions and legislative amendments in the United States and Australia and by judicial decisions in Japan. In addition, the

¹³⁸ Id.

¹³⁹ The algorithm, idea or concept of a program can be more easily gleaned from source code rather than object code.

¹⁴⁰ Copyright law does not protect the idea merely the expression of the idea. See notes 75 and 77, supra.

¹⁴¹ See note 125, supra.

Position Paper on the Legal Protection of Computer Software prepared for the Advisory Council on Japan — U.S. Economic Relations of the United States Chamber of Commerce, presented September 24, 1984, p. 24.

¹⁴³ Id.

United States Copyright Office has facilitated registration of copyright by simplifying computer program registration.

Computer software expressed as source code or as object code, on paper or in a read only memory, on microfilm or on a magnetic tape is protected under existing copyright statutes. The courts of many countries have addressed these issues and have (except in rare cases) decided that the existing copyright statutes are adequate to extend protection to computer software in all forms.

Copyright laws do not provide exclusive rights to an author to prevent others from using the ideas contained in his program or from using his program in ways that the author prefers to restrict. Legislation defining an exclusive right of the author to prevent specified uses of his computer software, such as that proposed by the World Intellectual Property Organization is possibly beneficial in some circumstances. However, except for a proposal in Japan, no country is seriously considering making this right applicable to computer software. Such rights are already provided by patent law and contract law and therefore do not require new separate legislation.

International copyright treaties permit nationals of any signatory country to obtain and assert rights in all other signatory countries. For example, several of the most significant judicial decisions in the United States supporting copyright protection involved works created in Japan by Japanese Nationals."

Finally in the author's opinion, copyright protection should be used for protecting computer programs that are widely distributed, particularly those in object code. Trade secret protection is recommended in those countries where trade secret law is available, for protecting the idea inherent in a program. Finally where trade secret law is not available it is recommended that an agreement be used with express non-disclosure provisions.

APPENDIX I

AUSTRALIA (Copyright*)

- Copyright subsists in an original literary, dramatic, musical or artistic work of a qualified person (i.e. Australian citizen, resident or Australian protected 1. person) which is unpublished or was first published in Australia or Convention country.
- Rights in copyrighted literary, dramatic or musical works. 2.
 - (a) reproduce work in material form
 - (b) publish work
 - (c) perform in public (d) broadcast work

 - (e) make adaptation.
- 3. Ownership of work.
 - (a) author generally is owner of copyright
 - (b) where work is made in pursuance to terms of an agreement or employment by proprietor of newspaper, magazine or periodical, author is not owner of copyright.
- Duration of copyright -- 50 years after the expiration of 4. the calendar year in which the author died.
- 5. Infringement Work is infringed by unauthorized importation for purpose of selling; letting for hire; trade offering; distributing; exhibiting in public; or otherwise violating author's rights.
- Remedies --6.
 - (a) injunction(b) damages

 - (c) accounting for profits.

Protection of Software:

- Yes--where software is in the nature of a literary work; 1. i.e., source code which is reduced to a visible form and conveys meaning or instruction to the reader.
- No--where software is in meaningless object code. (See Apple Computer Inc. and Apple Computer Australia Pty. 2. (See Limited v. Computer Edge Pty. Limited and Michael Suss, 12/7/83.)
- Based on Information from An Act Relating to Copyright, and for other purposes, June 27, 1968; date of entry into force of the basic law (No. 63) May 1, 1969

CANADA (Copyright*)

- Copyright subsists in every literary, dramatic, musical and artistic work of a Canadian subject, or citizen or subject ı. of foreign country that has adhered to the Convention. Must be in form having more than transitory duration. (Literary works include: maps, charts, plans, tables and compilations and includes scientific works.)
- 2. Rights --
 - (a) produce, reproduce the work, substantial part or translation of the work in any material form
 - (b) perform or deliver (i.e. lecture)
 - (c) publish
 - (d) in the case of literary, dramatic or musical work to reproduce, adapt and publicly present via cinematograph, or to communicate in radio communications.
- Ownership -- Author of work is first owner. However where 3. work was done under agreement or as employee, author is not first owner. However, author may prevent distortion, multilation, or other modification which is prejudicial to author's honor or reputation.
- 4. Duration -- Life or author and fifty years.
- Infringement -- the unauthorized doing of any of the sole rights conferred on the owner of copyright including 5. importation of unauthorized copies.
- 6. Remedies --
 - (a) injunction, damages, accounting and otherwise conferred by law
 - (b) costs are in absolute discretion of court
 - (c) summary remedies -- including fines and imprisonment.
- 7. Registration -author or publisher may register particulars of work in Copyright Office.

Protection of Software: (Speculative)

- 1. Maybe -- software in human readable form; i.e., some code listings on paper may be literary work and subject to copyright.
- Maybe -- author has right to translate work. If source 2. code is subject to copyright, the argument can be made that object code is translation of source code.
- Based on information from An Act Respecting Copyright, Revised Statutes of Canada, 1952, Chapter 55 and amended by Act of December 23, 1971, 19-20 Eliz II, Chapter 60

FRANCE (Copyright*)

- Copyright subsists in intellectual works created by authors; i.e., books, pamphlets and other artistic, literary and scientific writings; lectures; addresses; sermons; pleadings in court; dramatic or dramatico-musical works; choreographic works; or pantomines fixed in writing; musical compositions without works; cinematographic works; works of drawing, painting, architecture, sculpture, engraving, lithography; photographic works; works of applied art, maps, illustrations.
- 2. Rights --
 - (a) moral -- right to correct or retract work
 - (b) exploitation -- total or partial
 - (1) reproduction
 - (2) performance
 - (3) broadcast.
- Ownership -- author.
- 4. Duration of Copyright -- Life of author plus 50 years.
- Infringement -- Unlawful reproductions, performance or broadcast on French territory.
- 6. Remedies --
 - (a) money damages
 - (b) injunction
 - (c) inspection of suspected infringer premises
 - (d) fine or imprisonment -- 80,00 to 2 million francs; 3 months to 2 years imprisonment.
- Notice -- Not required but publishers generally use following: "Any copy in full or in part is an infringement of the French Law of March 11, 1957."
- Deposit -- Requirement for printer not creator. Works marked printed in France.

Protection of Software:

- Uncertain -- By a judgment of November 2, 1982, Court of Appeals in Paris affirmed a lower court judgment by which a computer program was held copyrighted.
- * Based on information from the Copyright Statute, Law No. 57-298 on Literary and Artistic Property, March 11, 1957, published in "Journal Officiel", March 14, 1957, p. 2723 and April 19, 1957, p. 4143

GERMANY_(Copyright*)

- Copyright subsists in author's literary, scientific and 1. artistic works (i.e. personal, intellectual, creations) i.e., literary works, artistic works, photographic works, cinematographic illustrations of a scientific or technical nature, adaptations, translations.
- 2. Rights --
 - (a) moral rights; i.e., prohibit distortion of work, dissemination, etc.
 - (b) exploitation rights --
 - (1) reproduction
 - (2) distribution
 - (3) exhibition
 - (4) communication in non-material form
 - (5) recitation, performance
 - broadcast (6)
 - recording. (7)
- 3. Ownership -- Author.
- Duration -- Copyright expires 70 years after author's 4. death.
- 5. Infringement -- Work is infringed by unauthorized exercise of exploitation rights.
- Remedies --6.
 - (a) injunction

 - (b) destruction of unlawful copies
 (c) destruction of moulds, plates, etc.
 (d) delivery of unauthorized copies to author
 (e) criminal complaint -- l year imprisonment or a fine.
- 7. Registration may be made by the Register of Authors in Patent Office.

Protection of Software:

Uncertain -- In December 21, 1982, District Court of Munich I as a specialized "court of copyright litigation" 1. acknowledged copyrightability of computer programs and in deciding copyrightability of "Visicalc".

However, the District Court of Mannheim, also a specialized "court for copyright litigation", held on June

programs 12, 1981 that computer "intellectual-asthetic content" (even though Copyright Act on which the District Court of Manheim relies does not contain this requirement). This decision has not been overruled.

Based on information from the Copyright Statute, An Act Dealing with Copyright and Related Rights, 1965, published in "Bundesgesetzblatt", I page 1273, No. 51, September 16, 1965

HONG KONG (Copyright*)

The United Kingdom Copyright Act of 1956 has been extended to Hong Kong. Accordingly, most comments applicable to protection of software in the U.K. are equally applicable in Hong Konq.

In Atari Inc. and others v. Video Technology Ltd. and others, Civ. App. No. 117 of 1982, the plaintiff obtained interlocutory injunctions in the Supreme Court on the basis of alleged infringement of copyright claimed to subsist in certain parts of the program for the "Pac-Man" video game.

* Based on information from the United Kingdom (Territories) Copyright (Hong Kong) Orders 1724 and 910; Date of Entry: December 12, 1972; and August 24, 1979; Official text "Statutory Instruments" 1972 and 1979

ITALY (Copyright*)

- Copyright subsists in intellectual works having a creative ı. and appertaining to literature, music, character arts, architecture, the theatre, cinematography, whatever their mode or form of expression, shall be protected according to Italian Law. Must involve intellectual effort.
- 2. Rights -- (Severable)
 - (a) economic utilization
 - (b) publication
 - (c) reproduction
 - (d) transcribe to other forms; i.e., oral to written
 - (e) public performance
 - (f) broadcast
 - (q) translation
 - (h) moral rights of author.
- Ownership --3.
 - (a) author
 - (b) works created under the name and account and expense of the State, or Provinces and Communes, shall belong to them.
- Duration -- Life of author and until termination of the 4. 50th calendar year after his death.
- 5. Infringement -- unauthorized exercise of any right of economic utilization belonging to any person.
- Remedies --6.
 - (a) damages
 - (b) removal or destruction of infringing articles
 - (c) criminal -- fine 500-20,000 lire; imprisonment of up to l year.
- 7. Deposit and Registration -- Deposit for all works, except for cinematographic, in the Office of Literary, Artistic and Scientific Property. Must have name of printer and year of publication.

Protection of Software:

- Uncertain -- In ATARI (Bertolino Bros.) v. SIDAM (July 15, ı. 1983) Court in turn affirmed Magistrate's conclusion that software can be protected from slavish imitation, but that commercial parasitism occurs only when commercial strategies and guidelines of another entity are followed. It ruled in the subject case that evidence did not show that there was commercial parasitism.
- * Based on information from the Copyright Statute, Law No. 663 of April 22, 1941, for the Protection of Copyright and Other Rights Connected with the Exercise Thereof; and Law No. 406, July 29, 1981

206

JAPAN (Copyright*)

- Copyright subsists in a production of an author in which 1. thoughts or sentiments are expressed in a creative way and which falls within the literary, scientific, artistic or musical domain which is first published in Japan, or published in Japan within 30 days of publication in another country, or first published in a Convention country, or published by Japanese national.
- 2. Rights of Author (exploitation rights)
 - (a) reproduction
 - (b) performance(c) broadcast

 - (d) recitation
 - (e) exhibition
 - (f) translation and adaptation
 - (q) exploitation of derivative work.
- Ownership -- Author, or creator of work. However, where work is made on initiative of a legal person or other 3. employer, except as otherwise agreed, then the legal person is the author.
- Duration of copyright -- From creation of work to 50 years 4. following death of author.
- 5. Remedies --
 - (a) Agency of Cultural Affairs provides for mediation of disputes
 - (b) author or owner of copyright may demand cessation or prevention of infringement, and institution of measures to effect such demands
 - (c) damages
 - (d) recovery of honor under moral rights
 - (e) fine or imprisonment.

Protection of Software:

- Yes--thought of an author of a program is manifested in ı. various combinations of instructions and the manifestation can be a "work" under Article 2 of Copyright Law, although no provision for program or software is provided under that Article.
- In Taito K.K. v. K.K. ING Enterprises it was held by the 2. Tokyo District Court that an object code program stored in a ROM was an act of reproduction, December 6, 1982.
- Based on information from the Copyright Law, Law No. 48 of 1970; amendatory Law No. 49, October 14, 1978

SOUTH KOREA (Copyright*)

- Copyright subsists in scientific and artistic works that 1. promote the development of natural culture. Works include, regardless of their form of expression, the following: writings, speeches, drawings and paintings, sculptures, works of applied art, architectural designs, maps, diagrams, models, photographs, music, books of musical performances, songs, choreographic works, dramatic works, stage and screen productions, recordings, sound tape, motion picture films and others belonging to domain of literature, science and art.
- 2. Rights --
 - (a) publication
 - (b) print

 - (c) performance (d) broadcast
 - (e) utilizing work in connection with an Architectural Work (f) adaptation

 - (g) compilation.
- Ownership --3.
 - (a) author
 - (b) one who commissioned work.
- 4. Duration --
 - (a) permanently regarding alteration or moral rights
 - (b) copyright in work published or performed is lifetime of author plus 30 years
 - (c) copyright owned by government, school, or company or social organization is 30 years from publication.
- 5. Infringement --
 - (a) unauthorized exercise of copyright owner's rights
 - (b) importation of work that is unauthorized
 - (c) publishing book of answers, to questions written for exercises.
- Remedies --6.
 - (a) fine or imprisonment
 - (b) confiscation of work.
- Registration -- Yes. Elaborate examination. 7.

Protection of Software:

- 1. Not in law, and no cases.
- Based on information from the Copyright Statute (1957), Law No. 432 on Copyright, English translation printed by the Ministry of Education of the Republic of Korea

R.O.C. TAIWAN (Copyright)

The Copyright Law of R.O.C. is under revision. No detail information is available.

The proposed copyright law does not address the question of pirated computer software. But the Cabinet left the door open for the Economics Ministry to propose that legislation include software.

Pirates or violators will be punished with imprisonment for not less than 6 months nor more than 5 years.

The works of foreign nationals or companies must first register their work with the Interior Ministry.

However in Apple Inc. v. Sunrise Inc. and Golden Formosa Co., both manufacturers of Apple II look-alike computers, wherein the copyright ROM software was duplicated, the Taiwan High Court cited a 1946 treaty of friendship, commerce and navigation between the Chinese and U.S. Government as a basis for granting legal firms legal status to bring criminal charges against Taiwanese individuals or companies, and instructed the District Court to hear Apple's case on the merits.

Accordingly with legal status assured U.S. firms will be free to pursue pirates in Taiwan. This decision, however, is narrow and pertains only to U.S. firms.

Conclusion:

It appears that, as in trademark cases, the main remedy for infringement is criminal and not civil. Because of a lack of an effective discovery in Taiwan, civil remedies are virtually useless. Moreover amount of proof is extensive and damages are small.

UNITED KINGDOM (Copyright*)

- Copyright subsists in every original literary, artistic, 1. dramatic or musical work of a qualified person (i.e. British citizen, resident of Britain) which is unpublished or first published in the U.K. or Convention country.
- Rights in literary works --2.
 - (a) reproduction(b) publish

 - (c) perform in public(d) broadcast

 - (e) making adaptations
 - (f) translation
- Ownership of work --3.
 - Exception--where work is made (a) author is owner. pursuant to employment by newspaper, magazine periodical, or by agreement.
- Duration of copyright -- 50 years from the end of the calendar year in which the author died.
- 5. Infringement --
 - (a) by unauthorized selling or by way of trade exposes for sale or hire
 - (b) by exhibiting
 - (c) by performing in public
 - (d) by unauthorized importation of infringing work
- 6. Remedies --
 - (a) injunction
 - (b) damages
 - (c) accounting of profits.

Protection of Software:

- Yes--Generally accepted that computer programs are literary works; must be (a) original work; (b) written down in some 1. form of notation; (c) made by "qualified" person
- In SEGA Enterprises Ltd. v. Richards and another, in the 2. High Court of Justice in the Chancery Division, July 2, 1982, interlocutory relief was granted for injunction on the opinion that copyright under the provisions relating to literary works in Copyright Act of 1956 subsists in the assembly code program of the game "Frogger". The machine code was derived from the operation of the assembler.
- Based on information from the Copyright Statute, November 5, 1956; of amendatory Acts, October 25, 1968 and February 17, 1971

APPENDIX II

AUSTRALIA (Trade Secret) *

The Australian law of confidential information, know-how and trade secrets comprises mainly English common law decisions and a relatively small number of Australian cases. Australia does not have statutes for protecting or according relief to trade secret, know-how, or confidential information possessors.

There is no legal definition regarding trade secrets or confidential information in Australian law. However, an accepted characterization is found in <u>Ansel Rubber Company v. Allied Rubber Industries Ltd.</u>, V.R. 37 (1966) and in <u>Mense and Ampere Electric Manufacturing Company v. Milenkovic</u>, V.R. 784 (1972) as follows.

- 1. Subject matter may not be a process in common use or something which is public property and public knowledge.
- 2. All of the separate features of the subject matter may have been published, or capable of being ascertained by actual inspection by any member of the public, but the whole result must not be achievable and has not been achieved except by someone going through the same kind of process as the owner.
- The employer or possessor of the confidential information or trade secret must have kept the matter to himself and from his competitors.
- Subject matter of trade secret must relate to a trade.

Trade secrets may or may not be property under Australian Some cases hold it is property--Deta Nominees Pty. Ltd. v. Viscount Plastic Products Pty. Ltd., V.R. 167 (1979); there are others that hold that trade secret is not property--DeBeer v. Graham, 12 L.R. (N.S.W.) (e.q.) 144.

Rights, Duties and Obligations

As in English law, there is an obligation imposed by contract or implied by the circumstances that the disclosee owes duty of confidence to a discloser of trade secret or confidential information to the disclosee.

The protection of the rightful interest of a discloser to a disclosee is based on the following:

- Breach of an express or implied contract Breach of confidence.

AUSTRALIA (continued)

Remedies

Generally the same as in Great Britain.

- Interlocutory injunction -- <u>Clemens and Marshall Ltd.</u> v. Field Peas Marketing, B.D. (Tanzmania) 76 C.L. R. 401.
- Permanent injunction.
- Order for delivery of personal property to an officer of the court for destruction -- <u>Ansel Rubber Company v.</u> <u>Allied Rubber Industries Ltd.</u>, V.R. 37.
- 4. Damages.
- 5. Accounting of profits.
- * Based on information from Trade Secrets and Know-How Throughout the World, Aaron N. Wise, Vol. 1

EUROPEAN ECONOMIC COMMUNITY (EEC) (Trade Secret and Know-How) *

"The national laws of the member states of the European Common Market all recognize the trade secret as a legal concept. In the majority of the member states, a distinction is sometimes made between industrial and commercial trade secrets. In England and Ireland, the single term 'trade secret' is utilized to connote both, although the more flexible concept of confidential information has become of greater significance in the last 25 years." — "Trade Secrets and Know-How Throughout the World" by A. N. Wise, page 7-5.

Know-how is recognized as it pertains to industrial processes and is secret -- Burroughs Delaplunque Mission decision of December 22, 1971, J.O. L 13, January 1970.

Status, Rights, Duties and Obligation

- Whether trade secrets or know-how are property is not relevant in the EEC since the national laws of the member states apply.
- There is no law pertaining to contracts per se in the EEC. The laws of the individual members of the EEC apply to the various facets of contract. EEC law applies relative to contracts only with respect to anti-trust.

Actions and Remedies:

- The European Court of Justice and the EEC Commission have no jurisdiction to hear and decide civil actions for damages or injunctive relief.
- * Based on information from Trade Secrets and Know-How Throughout the World, Aaron N. Wise, Vol. 4

FRANCE (Trade Secret and Know-How) *

In France, which is a civil law country, there is no trade secret concept per se. However, the combination of a manufacturing secret (secret de fabrication) and a commercial secret (secret commercial), taken together are analogous to Anglo-American trade secrets. However, France does recognize know-how in a special category.

Elements of a Manufacturing Secret:

- Information must not be generally known in France -information generally known abroad may be a
 manufacturing secret if unknown in France.
- The manufacturing secret must have immediate industrial application or must be in use in industry theoretical ideas, research, experimentation secrets are not manufacturing secrets.
- The manufacturing secret must have a market value or be commercially superior to other industrial applications.

Commercial Secrets:

 Commercial secrets pertain mainly to commercial and financial information; such as sales, commissions, sales forecasts, client lists, financial plans, investment plans, cost figures, etc.

Know=How: (savoir-faire)

Know-how has acquired a special significance of its own in France. It generally refers to "...knowledge and practice capable of being applied to install and operate an enterprise of any type." -- "Trade Secrets and Know-How Thoughout the World", 3-32.

Aaron N. Wise in "Trade Secrets and Know-How Thoughout the World" on page 3-35 summarizes know-how as follows:

- 1. It is a unit or whole;
- 2. Taken as a whole it must be secret, that is, 'sufficiently known to the public (and to the competition)'; if one or more of its key components is secret, the 'whole' is secret;
- Know-how is not distinguishable from the industrial secret;
- The possessor must exhibit the intention to keep it secret;
- Know-how must have value, which is directly proportional to a secrecy or novelty; and
- 6. The know-how must be capable of industrial application; presumably Bertin would consider technical information which has not reached yet the stage where it is suitable for industrial use as 'know-how' if it appears that it might be ultimately so employed."

FRANCE (continued)

(Legal writers disagree as to whether or not know-how is a property right. Know-how is legally protected indirectly by provisions of contract, tort and criminal laws created through the possession of know-how. For relief the Courts require precise description and proof of possession. This may be accomplished by placing a description in a sealed envelope -- l'enveloppe Soleau -- filed with the Industrial Property Institute.)

Confidential Information:

Confidential information has no legal significance in France. It is generally applied under Article 62-1 to insiders of a corporation and is designed not to take unfair advantage of the public trading in a corporation's stock or similar transactions.

Status, Rights, Duties and Obligations

- Manufacturing secrets are considered de facto property and may be licensed, sold or transferred.
- Commercial trade secret is not considered as a property right or intangible asset, although this right is transferable, divisible and assignable -- C. Gavalda le Secret des Affairs in Melanges Offerts Rene Savatier (Paris 1965).
- Know-how may or may not be a de facto property right valid against the world. (There is little agreement amongst legal scholars on this point.)

Actions

- l. Criminal --
 - (a) Article 14a regarding communication to aliens of secrets of a factory.
 - (b) Articles 177, 179 regarding agent, employer, servant.
 - (c) Article 408 regarding abuse of confidence with respect to securities, cash, merchandise, etc.
 - (d) Article 378 regarding divulgation of certain professional secrets.
- Civil Action wherein anyone injured by criminal acts of defendant may maintain separate action for damages.
- Tort law wherein an action under unfair competition may be maintained against one who has gained an unfair competitive advantage by the misuse of trade secrets/know-how of another.

FRANCE (continued)

Remedies

- Damages under Unfair competition -- Articles 1382 and 1383 of the civil code.
- 2. Injunctive relief
- 3. Specific performance.
- * Based on information from Trade Secrets and Know-How Throughout the World, Aaron N. Wise, Vol. 3

216

GREAT BRITAIN -- Law of Confidence -- (Trade Secret)*

There is no generally recognized accepted definition of trade secret in England.

Aaron N. Wise in "Trade Secrets and Know-How Thoughout the World" has identified elements of a trade secret, without indicating what the term signifies, from principles established in other countries, as follows:

- It considers of information -- e.g., industrial, commercial, scientific, financial, administrative, business organizational or contractual type information.
- 2. The information must be secret either in an absolute or relative sense -- i.e., information is not generally known to the public at large, a majority of experts and competitors in a particular line.
- 3. The possessor must demonstrate that he has acted with an intention to treat the information as a secret -security measures, secrecy provisions in agreements, a restricted number of disclosures.
- The secret information must be capable of industrial or commercial application.
- The possessor must have an interest in the information worthy of legal protection, bearing in mind English principles of equity. This will generally be an economic interest.

Actions, Duties and Obligations

Disclosee owes a duty not to unauthorizedly disclose trade secrets or confidential information. In order to maintain an action for breach of confidence of a trade secret, the plaintiff must show:

- 1. That the information was "trade secret" "confidential". (The term "trade secret" is used in the U.S., whereas "confidential" information is generally used in the U.K.)
- The information must be communicated to the defendant under an express or implied obligation of confidence -i.e., express agreement, employer-employee disclosure, principal-agent disclosure.
- 3. The defendant must show that the recipient of the confidential information has made or is about to make an unauthorized disclosure or use the information as a springboard to the detriment of the discloser.
- Plaintiff must be party to whom duty of confidence is directed.

GREAT BRITAIN (continued)

Remedies:

- 1. injunction -- restraining plaintiff from disclosing
- damages 2.
- accounting of profit
- 4. permit the plaintiff accompanied by his lawyer to enter defendant's premises to inspect material pertaining to the disclosure.
- Based on information from Trade Secrets and Know-How Throughout the World, Aaron N. Wise, Vol. 2

GERMANY (Trade Secret or Know-How)*

Although Germany is a civil law country, there is no statutory definition for "industrial and commercial secrets". There is, however, abundant case law which recognizes the basic elements for industrial and commercial secrets as follows:

- The industrial and commercial secret must not be generally known or available.
- There is an effective interest in maintaining secrecy and intent on the part of the holder to maintain secrecy.
- The industrial and commercial secret must relate to a business interprise.

Know-How

There is no unanimity as to what "know-how" encompasses, but a considerable number of legal scholars consider that know-how in German law is the same as industrial and commercial trade secrets.

Status, Rights, Duties and Obligations

 A majority of legal scholars regard trade secrets as de facto assets. The possessor of such assets may be protected against certain criminal and tortious acts. However, trade secrets are not considered as property or property rights of any kind by the majority of legal scholars.

Actions and Remedies

- Damages in tort under Section 19 of the German Unfair Competition Law.
- Criminal sanctions under Sections 17 and 18 of the German Unfair Competition Law.
- Damages for the unauthorized use, misuse or appropriation of trade secrets and know-how under Section 826 or 823 of the German Supreme Court condemning any act contrary to honest practices.
- Damages for tortious injury to exclusive rights under German Civil Code.
- 5. Injunctive relief under the German Civil Code.

NOTE: Industrial trade secrets representing achievements in enriching technology may be the subject of assignments or license agreements.

* Based on information from Trade Secrets and Know-How Throughout the World, Aaron N. Wise, Vol. 3

ITALY (Trade Secret)*

As with France and Germany, Italy is a civil law country. Trade secrets in the Anglo-American sense are not recognized; rather the German and French notion of trade secret whereby they are divided into commercial and industrial, is the prevalent form. Know-how is not generally recognized either in case law or by the majority of legal scholars. However, a form of know-how — "industrial applications designed to remain secret" — is recognized in that the Italian Penal Code, Article 623 punishes by imprisonment those persons who by virtue of their profession disclose such industrial secrets -- page 5-21, "Trade Secrets and Know-How Throughout the World" by Aaron N. Wise.

Wise has defined an industrial secret as follows:

"An industrial secret is information:

- which is secret in the sense that it is not published in Italy, generally known or readily available to:
 - (a) the Italian public at large;
 - (b) the experts in the field of Italy; or (c) competitors in Italy.
- which is connected with manufacturing or production activities;
- in which the holder has, objectively speaking, a justifiable economic interest, in maintaining the secret; and
- 4. as to which the holder has manifested the intention to maintain secret by taking adequate security measures, binding persons told or having access to the secret to secrecy, etc.

A commercial secret should be defined in exactly the same manner, except for (2), for which the following should be substituted:

which deals with aspects of the enterprise other 2. than manufacturing or production activities."

Know-how is generally used as any new knowledge not of an inventive nature and provides the possessor with a competitive advantage.

Status, Rights, Duties and Obligations

1. Economically valuable industrial and commercial secrets and know-how are considered de facto property having a property-like interest. Patentable industrial secrets may be considered as property; whereas unpatentable trade secrets are not.

ITALY Continued)

<u>Actions</u>

1. Criminal

- (a) patentable industrial trade secrets are actionable under the Civil Code, Article 810; whereas unpatentable are not.
- (b) economically valuable industrial and commercial secrets are also actionable under Article 810 of the Civil Code.
- (c) the divulgence of scientific or industrial secrets are actionable under Article 623 of the Penal Code.
- (d) there are additional criminal penalties under various Articles of the Penal Code, such as Articles 617, 513, 635, 624, 629 and 646.

2. Civil Actions

Civil Action may be maintained within a criminal proceeding under Articles 622, 623 of the Penal Code and 2622 of the Civil Code.

An action for tort may be maintained under unfair competition -- Article 2598 of the Civil Code.

Remedies

- (a) Damages
- (b) Injunctive relief
- (c) Declaratory action
- (d) Removal of the effects of unfair competition.
- * Based on information from Trade Secrets and Know-How Throughout the World, Aaron N. Wise, Vol. 4

JAPAN (Trade Secret and Know-How) *

Japan has a civil law system (i.e., statutory law); however no Japanese statute defines trade secret or its components, nor how they can be acquired or protected. Moreover there is no provision in the civil code for civil remedies against unauthorized disclosure or misappropriation of trade secrets or know-how. Moreover, unlike other European civil code countries, there is no provision in the criminal code for punishing the unauthorized disclosure or misappropriation of trade secrets.

However, express contractual agreements not to disclose information identified in the agreement will be enforced.

Moreover, secret or non-secret know-how is not a legally recognized right or property under the civil code dealing with property and property rights -- Berutsche Verft Aktientesellschaft v. Chuetsu Waukesh Yugen Kasha, 17 Kayu Minshu 769, 474 Hanrei Jiho 86 (1967).

Actions. Rights. Duties and Obligations

Since trade secrets and know-how are not recognized as property under the civil code and because the law of confidence has not been sufficiently developed, the duties or obligations are as follows:

- 1. those imposed by express contract
- breach of trust under Article 247 of the penal code -with respect to trade secrets and know-how, this
 pertains mainly to employee-employer relationship.
- obligation of a professional person, such as a doctor, druggist, lawyer, etc. in a profession owes a duty to the discloser not to disclose a secret which has come to his knowledge by virtue of his profession.

JAPAN (continued)

Remedies

The Japanese rarely resort to litigation and amicable settlement and conciliation is widespread.

Although there is an Unfair Competition Prevention Law (Law No. 14934) in Japan, there are no provisions regarding misappropriation of trade secrets.

Accordingly civil remedies against unauthorized disclosure or misappropriation of trade secrets or know-how is under the general tort provisions of the civil code.

- Damages -- under Article 709 of the civil code of the tort provisions, an injured party may obtain damages from another who willfully or negligently has injured him.
- Injunctive relief -- under Article 198 of the civil code the possessor of a right (contractual trade secret) may demand discontinuance of the disturbance when his right is disturbed.

Despite the above, trade secret and know-how may be licensed under Section 1.06 of the Japanese law pertaining to contracts provided that the subject matter is know-how incidental or complementary to patents, or patentable and unpatentable inventions.

 * Based on information from Trade Secrets and Know-How Throughout the World, Aaron N. Wise, Vol. 1

MEXICO and LATIN AMERICA (Trade Secret and Know-How) *

There is no great body of trade secret case law in the Latin American countries. The best characterization is found in Peru's General Industry Law of 1979 (Articles 87, 88).

Know-how is generally defined as industrial secrets in manufacturing processes relative to the use and application of industrial techniques which are:

- 1. (a) loyal and secret
 - (b) preserved in secrecy
 - (c) and does not pertain to the individual manual dexterity or personal skill of workers.

Nevertheless the covenant method of technology transfer is through know-how licensing, rather than patent licensing.

Status, Rights, Duties and Obligations

- nondisclosure provisions via contract are valid and enforceable in most Latin American countries.
- noncompetitive, restrictive post agreement provisions have little chance of succeeding or being enforeable.

Actions and Remedies:

penal actions are the main technique in preventing trade secret abuse via the unfair competition statutes, ___ statutes, etc.

Civil Procedures:

Civil procedures, although available, tend to have penalties and sections which are quite light and therefore do not act as a deterrent.

Based on information from Trade Secrets and Know-How Throughout the World, Aaron N. Wise, Vol. 5

REPUBLIC OF CHINA -- Taiwan -- (Trade Secret and Know-How)*

There appears to be no legislative or case law definition of trade secret. Moreover what definitions of "know-how" are available are designed to benefit the ROC -- e.g., one definition of a certain Taiwanese case defines "know-how" as new technology which is of economic value and is needed by the investment enterprise and is not yet available within the territory of the Republic of China.

Status, Duties, Rights and Obligations

- 1. Know-how as defined supra is considered an asset which may be licensed, sold or assigned.
- 2. The concept of trade secret appears to have no legal status in Taiwan.

Actions and Remedies:

Criminal:

- (a) there appears to be no case law or statutory law involving trade secrets and know-how.
- (b) although know-how may be licensed, there appears to be not too much civil law regarding such licensing. However know-how licenses must be approved by the Administrator of Economic Affairs.
- * Based on information from Trade Secrets and Know-How Throughout the World, Aaron N. Wise, Vol. 1

SOUTH KOREA (Trade Secret and Know-how)

As with Japan, trade secret or know-how concept is not recognized in Korean law. There are no civil or criminal remedies for the unauthorized disclosure of trade secrets.

APPENDIX III

TABLE I

International Copyright Relations of the U.S.*

| | | | | Bilateral |
|--------------------|-----|-------|-----|------------|
| Country | ncc | Berne | BAC | Reciprocal |
| Afghanistan | | | | |
| Albania | | | | |
| Algeria | x | | | |
| Andorra | x | | | |
| Angola | | | | |
| Antigua and Barbud | a | | | |
| Argentina | x | x | x | |
| Australia | x | x | | x |
| Austria | x | x | | x |
| Bahamas | x | x | | |
| Bahrain | | | | |
| Bangladesh | x | | | |
| Barbados | x | x | | |
| Belgium | x | x | | x |
| Belize | x | | | |
| Benin | | x | | |
| Bhutan | | | | |
| Bolivia | | | x | |
| Botswana | | | | • |
| Brazil | x | x | x | x |
| Bulgaria | x | x | | |
| Burundi | | | | |

^{*} United States Copyright Office, Bulletin R38-A

TABLE I (cont'd)

| | سممد | (00 | -, | |
|-----------------------------|------|-------|-----|------------|
| | | | | Bilateral |
| Country | UCC | Berne | BAC | Reciprocal |
| Canada | x | × | | x |
| Cape Verde | | | | |
| Central African Republic | | x | | |
| Chad | | | | |
| Chile | x | x | | x |
| China | | | | |
| Columbia | x | | | |
| Comoros | | | | |
| Congo | | x | | |
| Costa Rica | x | x | | x |
| Cuba | x | | | x |
| Cyprus | x | x | | ` x |
| Czechoslovakia | x | x | | × |
| Denmark | x | x | | x |
| Djibouti | | | | |
| Dominica | | | | |
| Dominican Republic | x | | x | |
| Ecuador | x | | x | |
| Egypt | | x | | |
| El Salvador | x | | | x |
| Equatorial Guinea | x | × | | |
| Ethiopia | | | | |
| Piji | x | | | |
| Finland | x | x | | x |
| Prance | x | x | | x |

| | | | | Bilateral |
|--------------------|-----|-------|-----|------------|
| Country | UCC | Berne | BAC | Reciprocal |
| Gabon | | x | | |
| Gambia | | | | |
| German (Demo. Rep. |) x | x | | |
| German (Fed. Rep.) | x | x | | |
| Ghana | x | | | |
| Greece | x | x | | x |
| Grenada | | | | |
| Guatemala | x | | x | |
| Guinea | x | x | | |
| Guinea-Bissau | | | | |
| Guyana | | | | |
| Haiti | x | | x | |
| Hashemite (Jordan) | | | | |
| Holy See | x | x | | |
| Honduras | | | x | |
| Hungary | x | × | | x |
| Iceland | × | x | | |
| India | x | x | | x |
| Indonesia | | | | |
| Iran | | | | |
| Iraq | | | | |
| Ireland | x | | | × |
| Israel | x | | | x |
| Italy | x | x | | x |
| | | | | |

| Country | ucc | Powno. | DAG | Bilateral |
|---------------------------|-----|--------|-----|------------|
| Country | UCC | Berne | BAC | Reciprocal |
| Ivory Coast | | x | | |
| Jamaica | | | | |
| Japan | x | x | | |
| Kampucea | x | | | |
| Kenya | x | | | |
| Korea (Demo. Rep.) | | | | |
| Korea | | | | |
| Kuwait | | | | |
| Lao | x | | | |
| Lebanon | x | | | |
| Lesotho | | | | |
| Liberia | x | | | |
| Libyan Arab Jamahiriya | | x | | |
| Liechtenstein | x | | | |
| Luxembourg | x | x | | x |
| Madagascar | | | | |
| Malawi | x | | | |
| Malaysia | | | | |
| Maldives (Rep.) | | x | | |
| Mali | | × | | |
| Malta | x | x | | |
| Mauritania | | x | | |
| Mauritius | x | | | |

TABLE I (cont'd)

| Country | <u>ucc</u> | Berne | BAC | Bilateral Reciprocal |
|------------------|------------|-------|-----|-------------------------|
| Mexico | x | x | x | x |
| Monaco | x | x | | x |
| Mongolia | | | | |
| Morocco | x | x | | |
| Mozambique | | | | |
| Namibia | | | | |
| Nauru (Rep.) | | | | |
| Nepal | | | | |
| Netherlands | x | x | | x |
| New Zealand | x | | | x |
| Nicaragua | x | | x | |
| Niger | | x | | |
| Nigeria | x | | | |
| Norway | x | x | | x |
| Oman | | | | |
| Pakistan | x | | | |
| Panama | x | | x | |
| Papua New Guinea | | | | |
| Paraguay | x | | x | |
| Peru | x | | x | |
| Philippines | x | x | | x |
| Poland | x | | | x |
| Portugal | x | x | | x |
| Qatar | | | | |

| | | | | Bilateral |
|----------------------------------|-----|-------|-----|------------|
| Country | UCC | Berne | BAC | Reciprocal |
| Rep. South Africa | | x | | x |
| Rumania | | | | x |
| Rwanda | | | | |
| Saint-Christopher Nevis | | | | |
| Saint Lucia | | | | |
| Saint Vincent and the Grenadines | | | | |
| Samoa | | | | |
| San Marino | | | | |
| Sao Tome and Principe | | | | |
| Saudi Arabia | | | | |
| Senegal | x | × | | |
| Seychelles | | | | |
| Sierra Leone | | | | |
| Singapore | | | | |
| Solomon Islands | | | | |
| Somalia | | | | |
| Spain | x | x | | |
| Sri Lanka | x | x | | x |
| Sudan | | | | |
| Surinam | | x | | |
| Swaziland | | | | |
| Sweden | x | × | | x |

| Country | UCC | Berne | BAC | Bilateral |
|-------------------------------------|-----|-------|-----|------------|
| Switzerland | X X | HETHE | BAL | Reciprocal |
| Syrian Arab Rep. | - | | | * |
| Taiwan | | | | |
| Thailand | | x | | |
| Togo | | x | | x |
| Tonga | | • | | |
| Trinidad and Tobago | • | | | |
| Tunisia | x | x | | |
| Turkey | _ | x | | |
| Tuvalu | | _ | | |
| Uganda | | | | |
| Union of Burma | | | | |
| Union of Soviet Socialistic Rep. | x | | | |
| United Arab Emirate | s | | | |
| United Kingdom | x | x | | x |
| United Tanzania (Rep.) | | | | |
| Upper Volta | | x | | |
| Uruguay | | x | x | |
| Vanuaru | | | | |
| Venezuela | x | x | | |
| Viet Nam (Socialist Republic | | | | |
| Yemen | | | | |
| Yemen, Democratic | | | | |
| Yugoslavia | x | x | | |
| Zaire | | x | | |
| Zambia | | x | | |
| Zimbabwe | | x | | |

TABLE II

Berne Union Member Countries

Argentina

Australia

Austria

Bahamas

Barbados

Belgium

Benin

Brazil

Bulgaria

Canada

Central African Republic

Chile

Congo

Costa Rica

Cyprus

Czechoslovakia

Denmark

Egypt

Equatorial Guinea

Finland

France

Gabon

German (Democratic Republic)

German (Federal Republic)

Greece

Guinea

Holy See

Hungary

Iceland

India

Italy

Ivory Coast

Japan

Libyan Arab Jamahiriya

Luxembourg

Maldives (Republic)

Mali

Malta

Mauritania

Mexico

Monaco

Morocco

Netherlands

Niger

Norway

Philippines

Portugal

Republic of South Africa

Senegal

Spain

Sri Lanka

Surinam

Sweden

Thailand

Togo

Tunisia

Turkey

United Kingdom

Upper Volta

Uruguay

Venezuela

Yugoslavia

Zaire

Zambia

Zimbabwe

TABLE III

Countries Member of Berne but Not UCC

Benin

Central African Republic

Congo

Egypt

Gabon

Ivory Coast

Libyan Arab Jamahiriya

Maldives (Republic)

Mali

Mauritania

Niger

Republic of South Africa

Surinam

Thailand

Togo

Turkey

Upper Volta

Uruguay

Zaire

zambia

Zimbabwe

TABLE IV

Universal Copyright Convention

Algeria

Andorra

Argentina

Australia

Austria

Bahamas

Bangladesh

Barbados

Belgium

Belize

Brazil

Bulgaria

Canada

Chile

Columbia

Costa Rica

Cuba

Cyprus

Czechoslovakia

Denmark

Cominican Republic

Ecuador

El Salvador

Equatorial Guinea

Fiji

Finland

Prance

German (Democratic Republic)

German (Federal Republic)

Ghana

Greece

Guatemala

Guinea

Haiti

Holy See

Hungary

Iceland

India

Ireland

Israel

Italy

Japan

Kampucea

Kenya

Lao

Lebanon

Liberia

Liechtenstein

Luxembourg

Malawi

Malta

Mauritius

Mexico

Monaco

Morocco

Netherlands

New Zealand

Nicaragua

Nigeria

Norway

Pakistan

Panama

Paraguay

Peru

Philippines

Portugal
Senegal
Spain
Sri Lanka
Sweden
Switzerland
Tunisia
Union of Soviet Socialistic Republic
United Kingdom
Venezuela
Yugoslavia

TABLE Y

Countries not Members of any Union but Having Bilateral Treaties with U.S.

Taiwan

APPENDIX IV

MODEL PROVISIONS on the PROTECTION OF COMPUTER SOFTWARE

Section 1

Definitions

For the purposes of this Law:

- (i) "computer program" means a set of instructions capable, when incorporated in a machine-readable medium of causing a machine having information-processing expabilities to indicate, perform or achieve a particular function, task or result;
- (ii) "program description" means a complete procedural presentation in verbal, schematic or other form, in sufficient detail to determine a set of instructions constituting a corresponding computer program;
- tiii) "supporting material" means any material other than a computer program or a program description, created for siding the understanding or application of a computer program, for example problem descriptions and user instructions:
- (iv) "computer software" means any or several of the items referred to in (i) to (iii):
- (v) "proprietor" means the person, including a legal entity, to whom the rights under this Law belong according to Section 2(1), or his successor in title according to Section 2(2).

Section 2

Proprietorship; Transfer and Devolution of Rights in Respect of Computer Software

- (1) The rights under this Law in respect of computer software shall belong to the person who created such software; however, where the software was created by an employee in the course of performing his duties as employee, the said rights shall, unless otherwise agreed, belong to the employer.
- (2) The rights under this Law in respect of computer software may be transferred, in whole or in part, by contract. Upon the death of the proprietor, the said rights shall devolve

eccording to the law of testamentary or intestate succession, as the case they bu-

Section 3

Originality

This Law applies only to computer software which is original in the sense that it is the result of its crustor's own intellectual effort.

Section 4

Concepts

The rights under this Law shall not extend to the concepts on which the computer software is based.

Section 5

Rights of the Proprietor

The proprietor shall have the right to prevent any person from:

- (i) disclosing the computer software or facilitating its disclosure to any person before it is made accessible to the public with the consent of the proprietor;
- (ii) allowing or facilitating access by any person to any object storing or reproducing the computer software, before the computer software is made accessible to the public with the consent of the proprietor;
- (iii) copying by any means or in any form the computer software;
- (iv) using the computer program to produce the same or a substantially similar computer program or a program description of the computer program or of a substantially similar computer program;
- (v) using the program description to produce the same or a substantially similar program description or to produce a corresponding computer program;

APPENDIX IV

-2-

- (vi) using the computer program or a computer program produced as described in (iii), (iv) or (v) to control the operation of a sacchine having information-processing copublicies, or storing it is such a machine;
- (vii) offering or stocking for the purpose of sale, hire or license, sailing, importing, experting, leasing or licensing the computer software or computer software produced as described in (iii). (iv) or (v):
- (viii) doing any of the acts described in (vii) in respect of objects storing or repreducing the computer software or computer software produced as described in (iii), (iv) or (v).

Section 6

lafringements

- Any act referred to in Section 5(i) to (viii) shall, unless authorized by the proprietor, be an infringement of the proprietor's rights.
- (2) The independent creation by any person of computer software which is the same as, or substantially similar to, the computer software of another person, or the doing of any act referred to in Section 5(f) to (viii) in respect of such independently created computer software, shall not be an infringement of the rights of the latter under this Law.
- (3) Any presence of the computer software on foreign vessels, aircraft, spacecraft or land vehicles, temporarily or accidentally entering the waters, airspace or land of this country, and any use of computer software during such entry, shall not be considered an infringement of the rights under this Law.

Section 7

Duration of Rights

(1) The rights under this Law shall begin at the time when the computer software was created.

- (2)(a) Subject to paragraph (b), the rights under this Law shall expire at the end of a period of 20 years calculated from the earlier of the following dates:
- (i) the date when the computer program is, for purposes other then study, trial or research. Sent used in any country in controlling the operation of a machine having information-processing capabilities, by or with the consent of the proprietor;
- (ii) the date when the computer software is first sold, leased or licensed in any country or offered for those purposes.
- (b) The rights under this Lew shell in so case extend beyond 25 years from the time when the computer software was created.

Section 8

Reiled

- (1) Where any of the proprieter's rights have been, or are likely to be, infringed, he shall be extilled to an injunction, unless the grant of an injunction would be excesseable having regard to the circumstances of the case.
- (2) Where any of the proprietor's rights have been infringed, he shall be entitled to demages or such compensation as may be appropriate having regard to the circumstances of the case.

Section 9

Application of Other Laws

This Law shall not preciude, in respect of the protection of computer software, the application of the general principles of law or the application of any other law, such as the Patent Law, the Copyright Law or the Law on Unfair Competition.

THE STATUTORY DAMAGES PROVISION UNDER THE 1976 COPYRIGHT ACT*

PAMELA A. HAY*

I. INTRODUCTION

The availability of a satisfactory remedy at law is probably the most determinative factor which influences a copyright owner to bring suit against a copyright infringer. The 1976 Copyright Act¹ provides the plaintiff in a copyright action with a variety of civil remedy options.² Even so, the large body of copyright literature contains few articles discussing these remedies. This gap in the copyright literature is all the more glaring in light of the availability of a remedy unique to copyright law — that of statutory damages.³

Statutory damages are a monetary remedy elected by the plaintiff in place of proving actual damages and awarded at the discretion of the court within a specified monetary range. This paper will contribute to narrowing the remedies gap in the copyright literature by examining the statutory damages provision and its application by the courts. Specifically, the focus will be on the factual situations in which copyright plaintiffs chose statutory damages and what amounts the courts determined as appropriate for those situations.

^{*}The article won first place in the University of Wisconsin Law School's Nathan Burkan Memorial Competition.

¹ 17 U.S.C. §101-702 (1976).

The civil remedies available under the 1976 Act, id., are: temporary injunction, §502; permanent injunction, §502; impoundment, §503(a); destruction, §503(b); actual damages, §504(b); statutory damages, §504(c); and costs and attorney's fees, §505. See Libott, Remedies in Copyright Cases, 8 APLA 103-121 (1980) and 3 M. Nimmer, Nimmer on Copyright §14.01 et. seq. (hereafter cited as Nimmer) for discussions of each remedy option.

^{3 17} U.S.C. §504(c).

⁴ The basic statutory range "for all infringements involved in the action, with respect to any one work..." is "a sum not less than \$250 or more than \$10,000". *Id.* \$504(c)(1).

II. HISTORY OF STATUTORY DAMAGES IN COPYRIGHT LAW

Specified monetary damages for copyright infringement existed in the first copyright statutes in both England and the United States. An eighteenth century English copyright law, the majority of the copyright laws in the U.S. colonies, and the first U.S. federal copyright law all penalized copyright violations with set forfeitures for each infringing page.⁵ The copyright laws of some of the colonial states, however, did not denote such a specific monetary forfeiture but rather contained a statutory damage forerunner in the form of a forfeiture range.⁶ Not until the 1909 Copyright Act,⁷ though, did a federal copyright law contain a statutory damage range provision.⁸

The 1909 Copyright Act permitted the court to award the copyright plaintiff "in lieu of actual damages and profits, such damages as to the court shall appear to be just" and specified both ranges and set amounts for different types of works. This "in lieu" provision, because of both its complexity and ambiguity, resulted in complicated

In England, the Statute of Anne, 8 Anne c. 19 (1710), granted authors the exclusive right to print books for 14 years and punished violators with forfeitures of one penny per infringing sheet. In the United States, federal legislation was preceded by state laws, Copyright Enactments 1-11 (1783-1785), most of which provided for a set damage per copy of the copyright work. The first federal Copyright Act, Act of May 31, 1970, 7 Stat. 124, required a fifty cent forfeiture for each infringing sheet. Patry, The Right to a Jury in Copyright Cases, 29 J. Copyright Society 139, 146-7, 150-1, 155-6, (1981).

⁶ Rhode Island and New Hampshire provided for damages within the range of 5 to 1000 pounds, and Massachusetts from 1 to 1000 pounds, Copyright Enactments. *Id.* at 4-5, 8-9, and 9-10. Patry, *id.* at 150-1.

⁷ 17 U.S.C. §1 et. seq. (1909, repealed 1978). (Hereafter cited as 1909 Act).

Bespite the history of a monetary range in early colonial law, one court has suggested that the 1909 Act Statutory damages was a substitute for the reasonable royalty rule in patent law, which provides successful plaintiffs who have been harmed but cannot prove actual damages or profits with a means to escape the hollow victory of an award of purely nominal damages. Widenski v. Shapiro, Bernstein & Co., 147 F.2d 909, 911 (1st Cir. 1945).

^{9 1909} Act \$101(b). The language which sets out the differing "in lieu" awards is as follows: "in assessing such damages the court may, in its discretion, allow the amounts as hereinafter stated, but in case of a newspaper reproduction of a copyrighted photograph, such damages shall not exceed the sum of \$200 nor be less than the sum of \$50, and in the case of the infringement of an undramatized or non-dramatic work by means of motion pictures, where the infringer shall show that he was not aware that he was infringing, and that such infringement could not have been reasonably forseen, such damages shall not exceed the sum of \$100; and in the case of an infringement of a copyrighted dramatic or dramatico-musical work

damage calculations by the courts and inconsistent court awards.¹⁰ Indeed, the "1909 Act "in lieu" provision has been described as "nearly impenetrable" and as "an ambiguous hodgepodge of improvisations." ¹²

The 1976 Copyright Act's statutory damages provision¹³ significantly departs from the 1909 Act's "in lieu" provision. The goals for the change in the remedies section of the 1976 Act were:

by a maker of motion pictures and his agencies for distribution thereof to exhibitors, where such infringer shows that he was not aware that he was infringing a copyrighted work, and that such infringements could not reasonably have been forseen, the entire sum of damages recoverable by the copyright proprietor from such infringing maker and his agencies for the distribution to exhibitors of such infringing motion picture shall not exceed the sum of \$5,000 nor be less than \$250, and such damages shall in no other case exceed the sum of \$5,000 nor be less than the sum of \$250, and shall not be regarded as a penalty."

- ¹⁰ For examples of the calculations and case law, see 4 Nimmer at app. 17.
- Robert Stigwood Group, Ltd. v. O'Reilly, 530 F.2d 1096 (2nd Cir. 1976).
- ¹² Iowa State v. American Broadcasting, 475 F.Supp. 78, 79 n.2 (S.D.N.Y. 1979), quoted in Davis v. E.I. duPont de Nemours & Co. 249 F.Supp. 329, 331 (S.D.N.Y. 1966)
- 13 17 U.S.C. §504(c). The text of the present statutory damage provision is as follows: "(1) Except as provided by clause (2) of this subsection, the copyright owner may elect, at any time before final judgment is rendered, to recover, instead of actual damages and profits, an award of statutory damages for all infringements involved in the action, with respect to any one work, for which any one infringer is liable individually, or for which any two or more infringers are liable jointly and severally, in a sum of not less than \$250 or more than \$10,000 as the court considers just. For the purposes of this subsection, all the parts of a compilation or derivative work constitute one work.
 - (2) In a case where the copyright owner sustains the burden of proving, and the court finds, that infringement was committed willfully, the court in its discretion may increase the award of statutory damages to a sum of not more than \$50,000. In a case where the infringer sustains the burden of proving, and the court finds, that such infringer was not aware and had no reason to believe that his or her acts constituted an infringement of copyright, the court in its discretion may reduce the award of statutory damages to a sum of not less than \$100. The court shall remit statutory damages in any case where an infringer believed and has reasonable grounds for believing that his or her use of the copyrighted work was a fair use under section 107, if the infringer was: (i) an employee or agent of a nonprofit educational institution, library, or archives acting within the scope of his or her employment who, or such institution, library, or archives itself, which infringed by reproducing the work in copies or phonorecords; or (ii) a public broadcasting entity which or a person who, as a regular part of the nonprofit activities of a public broadcasting entity (as defined in subsection (g) of section 118) infringed by performing a published nondramatic literary work or by reproducing a transmission program embodying a performance of such a work."

(1) to give the courts specific unambiguous directions concerning monetary awards, thus avoiding the confusion and uncertainty that have marked the present law on the subject, and, at the same time, (2) to provide the courts with reasonable latitude to adjust recovery to the circumstances of the case, thus avoiding some of the artificial or overly technical awards resulting from the language of the existing statute.¹⁴

On its face, the present statutory damages provision has several major differences from the 1909 "in lieu" provision and thereby appears to resolve much of the ambiguity present in the 1909 Act's "in lieu" provision case law as to when and what amount of damages the court may award.¹⁵

One major departure that the 1976 Act's section 504(c) statutory damages provision makes from the 1909 Act's "in lieu" provision concerns the election of statutory damages. The 1976 Act's legislative history makes clear that the copyright owner has a choice to elect statutory damages rather than prove actual damages, even if actual damages could be proved. The 1909 Act case law was divided on the issue of whether "in lieu" damages were available when actual damages could be proved. The 1909 Act case law was divided on the issue of whether "in lieu" damages were available when actual damages could be proved.

Another difference between section 504(c) and the 1909 "in lieu" provision is the amount of award permitted for copyright infringement. Section 504(c) replaces the 1909 Act's differing ranges and specifies one range from \$250 to \$10,000 for all types of copyright works. Additionally, section 504(c) provides for exceptions to this range, which had no direct analogs under the 1909 Act. If the plaintiff can prove that the infringement was done willfully, the maximum award can be increased to \$50,000 at the court's discretion. In the alternative, if the infringer can prove that the infringements were

¹⁴ H.R. Rep. No. 1476, 94th Cong. 2d Sess. (1976), at 161 reprinted in 1976 U.S. Code Cong. & Ad. News 5659 (hereafter cited as H.Rep.).

See Libott note 2, supra, at 117-120 and Goldberg, Current Developments in Copyright Law 173-175 (1982) for discussions of the major differences between the two provisions.

H.Rep. at 161. See also note 30, infra and the possible ramifications of the availability of a jury trial on a plaintiff's decision to elect statutory damages. See text accompanying notes 37-42 for further discussion on election and text accompanying notes 43-45 for evidentiary requirements.

¹⁷ See 4 Nimmer at app. 16.

^{18 17} U.S.C. §504(c)(2), setout in note 13, supra. The 1909 Act's §101(b) did provide that the basic \$250 to \$5,000 range did not apply to infringements which occurred after the plaintiff gave actual notice to the infringer. For those infringements the cap on the maximum amount authorized was lifted. 3 Nimmer at §14.04[B][3] n.11; N. Boorstyn, Copyright Law §10:16 p. 305 n.52 (1981).

committed innocently, the court has the discretion to reduce the award to as low as \$100.¹⁹ Also, section 504(c) provides that an award should not be granted if certain educators, librarians, and public broadcasters believed their use of the work was fair use under section 107.²⁰

Along with the changes in election and amount of the statutory award, section 504(c) has resolved much of the 1909 Act's case law inconsistencies on the issue of what constitutes an infringement for purposes of separate damage awards. Under the 1909 Act, confusion reigned as to how many times the specified damages were to be applied in cases involving multiple infringements of a single copyright work:

Cases under the Old Law became involved in calculations based on whether each edition or performance was a separate infringement..., and the like as an attempt to multiply the statutory minimum into a substantial mandated award.²¹

The 1976 Act's section 504(c)(1) language would appear to prohibit multiple awards for a single work because the provision states that "all infringements involved in the action with respect to any one work" is to result in one award within the statutory range. The House Report goes further by stating that an infringer is liable for a single amount within the range regardless of how many acts of infringement occurred involving the work and "regardless of whether the acts were separate, isolated or occurred in a related series."²²

Although the language of the statute and the House Report appear to have cleared up the "multiplicity" problem, or the problem of multiple infringements of a single work, some courts applying section 504(c) have ignored this language and granted awards per infringement rather than per copyrighted work.²³ Courts, however, have not

^{19 17} U.S.C. §504(c)(2), setout in note 13, supra. See note 58-62 and accompanying text for further discussion. The only prototype to such an innocence exception under the 1909 Act "in lieu" provision was a clause providing that an award could not exceed \$100 for the infringement of a nondramatized work in a movie if the infringer showed he was not aware that he was infringing and that such infringement could not reasonably have been foreseen. 1909 Act §101(b); 3 Nimmer at §14.04[B][2][a] n.8

²⁰ 17 U.S.C. §504(c)(2), setout in note 13, supra. See also 3 Nimmer at §14.04[B][2][b].

²¹ Goldberg, note 15, supra, at 174.

²² H.Rep. at 162.

In Hospital for Sick Children v. Melody Fare, 516 F. Supp. 67 (E.D. VA. 1980) the court awarded the plaintiff \$50 per performance for the defendants' infringement of the play "Peter Pan." Similarly in Milene Music, Inc. v. Gotauco, 551 F.Supp. 1288 (D.R.I. 1982), the court awarded the plaintiff \$625 for each public performance of

likewise misinterpreted the legislative mandate that one award be given despite the existence of multiple copyright owners²⁴ or multiple infringers.²⁵ A possible reason for the continuation of the "multiplicity" problem, with respect to multiple infringement acts, in the section 504(c) case law is that courts are reluctant to award just one amount for a single work because the doctrine of res judicata would prevent the plaintiff from bringing separate actions against the defendant for different infringements of the same work.²⁶ Even if this is true, however, the increase in the maximum award from \$5,000 under the 1909 Act to \$10,000 in section 504(c) and the addition of the willful exception arguably provides, as intended by the legislature, adequate compensation for the copyright owner whose work has been infringed multiple times by the defendant:

[T]he range of monetary award allowed to the court is granted for the exact purpose of permitting greater recovery where the infringement is more damaging, more egregious, or more frequent and continuous as a course of conduct.²⁷

Section 504(c) does fail to resolve one major issue that existed in the 1909 Act case law — whether the term "court" in the statute text refers to the judge or to the trier of fact, be it judge or jury. The 1909 Act "in lieu" provision called for awarding "such damages as to the court shall appear to be just." Similarly, court discretion in the present section 504(c) statutory damages provision is described "as the court considers just." Neither the 1976 Copyright Act nor the legislature history gives any guidance as to whom "court" is meant to refer. Like the case law for the 1909 Act "in lieu" provision, 29 the

copyrighted songs. The court stated that "damages are calculated by multiplying the damage award by the number of times each copyrighted work is infringed upon." *Milene* at 1297 n.14. Compare these with courts which have properly awarded damages based on the number of copyrighted work infringed and not on the number of infringing acts, e.g., R.S.O. Records, Inc. v. Peri, 596 F.Supp 849, 862 n.16 (S.D.N.Y. 1984); Chess Music, Inc. v. Tadych, 467 F. Supp. 819, 821 (E.D. Wis. 1979); United Feature v. Rheingold, 209 U.S.P.Q. 317, 318 (S.D.F.L. 1979).

²⁴ See e.g. Kamakazi Music Corp. v. Robbins Music Corp., 522 F. Supp. 125, 534 F.Supp. 69, 75 (S.D.N.Y. 1982) aff'd 684 F.2d 228, (2nd Cir. 1982).

²⁵ See e.g., R.S.O., note 23, supra, at 863.

²⁶ 3 Nimmer at \$14.04[B][2][b]; Libott, note 2, supra at 118-120.

²⁷ Libott, note 2, supra at 120.

^{28 1909} Act §101(b).

For 1909 Act cases on this issue, see 3 Nimmer at §14.04[c] n.40-41; Breuninger, Statutory Damages and Right to Jury Trial in Copyright Infringement Suits, 24 IDEA 249, 250-254 (1983); Annot., 64 A.L.R. Fed. 310.

section 504(c) case law is divided as to whether a judge or a jury, if there is a jury trial, is to determine the statutory damage award. Some courts have held statutory damages to be an equitable remedy and, therefore, to be decided by the judge, while other courts have held statutory damages to be a legal remedy and, therefore, to be determined by the trier of fact.³⁰ The current law on this issue can be summarized as follows:

[T]he issue remains unclear whether or not a right to jury trial exists in cases that request statutory damages. The language of the statute is ambiguous, the legislative history regarding the intent of Congress is sketchy and vague, and the cases as decided under the analogous provision in the Copyright Act of 1909 are equally indeterminate. The current case law is developing in two separate patterns at complete odds with each other. As such, the matter is ripe for the Supreme Court to resolve. [footnote omitted].³¹

A subissue of the judge versus jury debate is whether the judge or jury is to determine the question of innocence and willfulness under section 504(c)(2). The eminent copyright scholar, Melville Nimmer, suggests that these issues should be made by the judge.³² The sparse case law is equivocal. One circuit has held that the presence of willfulness is a question for the jury while the amount of damages, if willfulness is found, is to be determined by the judge.³³ Another circuit appears to have held that the judge is to determine whether the

Cases under the 1976 Act holding statutory damages to be an equitable remedy are: Twentieth Century Music Corp. v. Frith 645 F.2d 6 (5th Cir. 1981); Rodgers v. Breckenridge Hotels, Inc. 512 F.Supp. 1326 (E.D. Mo. 1981); Broadcast Music, Inc. v. Dici Nazi Velleggra, Inc., 490 F.Supp. 1342 (D. Md. 1980); Glazier v. First Media Corp. 532 F.Supp. 63 (D. Del. 1982); Broadcast Music, Inc. v. Club 30, Inc., 222 U.S.P.Q. 140 (N.D. Ill. 1983); Broadcast Music, Inc. v. Lions' Den, Copyright L.Rep (CCH) para. 25,357 (S.D. Okla. 1982); Hunter Broadcasting, Inc. v. Broadcast Music, Inc. Copyright L. Rep. (CCH) para. 25,673 (D. Vt. 1984); Oboler v. Goldin 714 F.2d. 211 (2nd Cir. 1983).

Those cases holding statutory damages to be a legal remedy are: Broadcast Music, Inc. v. Moor-Law, Inc., 203 U.S.P.Q. 487 (D. Del. 1978); Gnossos Music v. Mitken, Inc., 653 F.2d 117 (4th Cir. 1981).

An in-depth discussion on the judge/jury issue is beyond the scope of this article. The reader is referred to Patry, note 5, supra & Breuninger, id. for further discussion. It should be noted, however, that the plaintiff's decision to elect statutory damages may be influenced by whether the jurisdiction in which the suit is filed permits a jury trial on the issue of statutory damages. Patry, note 5, supra at 191.

³¹ Breuninger, note 29, supra, at 258.

^{32 3} Nimmer at §14.04[C].

National Conference of Bar Examiners v. Multistate Legal Studies, 495 F.Supp. 34 (N.D. Ill. 1981) affd 692 F.2d 478 (7th Cir.).

award should be increased for willful infringement.³⁴ The issue of the meaning of "court" for both the basic statutory award and for the willfulness and innocence exceptions will be at least sharpened and at best resolved between the jurisdictions by future litigation.

III. APPLICATION OF THE 1976 ACT STATUTORY DAMAGE PROVISION BY THE COURTS.

A. Mechanics

In order for the copyright plaintiff to elect the statutory damage remedy, the work being sued upon must have been registered with the Copyright Office prior to the acts of infringement.³⁵ Therefore, for those infringements which occurred prior to a work's registration, section 504(b) actual damages are the only monetary remedy available to the copyright plaintiff.³⁶

As discussed in the previous section, under section 504(c) the copyright owner can choose statutory damages as a remedy, rather than prove actual damages and profits under section 504(b). This election can occur "at any time before final judgment is rendered."³⁷ This means, then, that the copyright plaintiff can attempt first to prove actual damages and profits and, after the court has rendered a decision, can still opt for statutory damages.³⁸ Additionally, statutory

³⁴ Oboler, note 30, supra.

³⁵ 17 U.S.C. §412 provides that neither statutory damages nor attorneys' fees are recoverable for infringements that occurred prior to the effective date of the work's registration, with a three month grace period for unpublished works. Cases holding as such include Deltak, Inc. v. Advanced Systems, Inc., 574 F.Supp. 400, 403 (N.D. Ill. 1983); Pacific & Southern Co. v. Duncan, 572 F.Supp. 1186, 1197 (N.D.Ga. 1983); Schuchart & Associates, Professional Engineers, Inc. v. Solo Serve Corp., 220 U.S.P.Q. 170, 185 (W.D. Tex. 1983); Streeter v. Rolfe, 491 F.Supp. 416, 421 (W.D.La. 1980).

The requirement that works be registered prior to the occurrence of infringements in order for the copyright owner to have recourse to the attorney fees and statutory damage remedies would appear to necessitate a practice of promptly registering works. However, one commentator notes that registration of unpublished works may not be feasible: "Both financial and artistic considerations may preclude registration except in the fact of actual infringement. With respect to unpublished material, the rights lost are rights which were nonexistent under the old law, since statutory damages ... were not available under the 'commonlaw copyright' protection of state law." Libott, note 2, supra at 106.

³⁷ 17 U.S.C. §504(c).

^{38 &}quot;At the trial evidence relating to the claim of actual damages and profits will be submitted to a jury for its determination. At the same time such evidence as the parties wish to introduce relating to statutory damages may also be introduced. At

damages are available on summary judgment³⁹ and default judgment.⁴⁰ Indeed, the statutory damage option may, in some cases, be advisable upon default judgment. At least one court has said that an inference of willfulness may be drawn from the defendant's failure to appear and defend, particularly since the plaintiff had alleged willful infringement under section 504(c)(2).⁴¹ Finally, even if statutory damages are not elected prior to final judgment, but the judgment is later vacated on appeal, the plaintiff can elect statutory damages on the remand.⁴²

Theoretically, a copyright owner can opt for statutory damages and not attempt to prove any actual damages, even if such evidence is available.⁴³ The House Report on section 504(c) seems to imply that in such a case only the minimum amount, \$250, can be awarded.⁴⁴ However, in practice, as the following sections of this paper will show, many factors other than evidence of actual damages or profits lead courts to award more than the statutory minimum. The minimum

the conclusion of the trial the jury will render a verdict on fixing the amount of actual damages and profits, if any. Thereafter the Court will determine the amount of statutory damages to be awarded. Before judgment is entered plaintiff will be required to elect whether he wishes to accept the verdict of the jury as to actual damages and profits or the Court's award of statutory damages." Glazier, note 30, supra at 68. Note that for those jurisdictions which allow a jury to determine statutory damages potentially two jury verdicts on damages will be required.

- ³⁹ See e.g. Broadcast Music, Inc. v. Question Mark 220 U.S.P.Q. 31 (N.D. Tex. 1983); Leigh v. Sakkaris, 215 U.S.P.Q. 114 (N.D. Cal. 1982); George Simon, Inc. v. Spatz 492 F. Supp. 836 (W.D. Wis. 1980).
- ⁴⁰ See e.g. Fallaci v. New Gazette Literary Corp., 568 F.Supp 1172 (S.D.N.Y. 1983); Doehrer v. Caldwell, 207 U.S.P.Q. 391 (N.D. Ill. 1981); Rheingold, note 23, supra.
- ⁴¹ Fallaci, id. at 1173. Compare Doehrer, id. at 393 in which the court held that the defendants' default did not by itself establish willfulness.
- 42 Oboler, note 30, supra.
- 43 H.Rep. at 161. Several courts applying §504(c) have implied that the statutory damage option is limited to situations in which there is insufficient proof of actual damages or profits, *Doehrer*, note 40, *supra* at 393; such as when the question of relief is exceedingly complex and, therefore, it is difficult to prove the precise nature of the harm, Universal City Studios v. Sony Corp. of America, 659 F.2d 963, 976 (9th Cir. 1981); or when a damage award is needed to discourage willful infringement, Kenbrooke Fabrics, Inc. v. Holland Fabrics, Inc., 602 F.Supp. 151, 155 (S.D. N.Y. 1984). However, in light of the express right of the plaintiff to choose between statutory damages and actual damages, such limitations on the use of the statutory damage option is incorrect. *See* 3 Nimmer at §14.04[A] n.l.1 for criticism of the *Doehrer* court's reliance on 1909 Act cases for its interpretation of 504(c).
- ⁴⁴ The plaintiff "is not obliged to submit proof of damages and profits and may choose to rely on the provision for minimum statutory damages." H.Rep. at 161.

evidentiary requirement, at any rate, is that there be either a hearing or sufficient affidavits to give the trial judge an adequate reference on which to base the award.⁴⁵

B. Purpose and Factors Considered

A basic question is why the law even permits copyright plaintiffs the option of receiving money damages without requiring them to prove to what amount they have been harmed. The traditional answer to this question was stated in a U.S. Supreme Court decision discussing the 1909 "in lieu" provision: The purpose is

to avoid the strictness of construction incident to a law imposing penalties, and to give the owner of a copyright some recompense for injury done to him in a case where the rules of law render difficult or impossible proof of damages or discovery of profits.⁴⁶

More recently, several courts have stated a two-fold purpose for the existence of the section 504(c) statutory damages provision: to compensate the injured copyright owner and to deter the copyright infringer.⁴⁷

To understand application of these goals by the courts, it is helpful to break the section 504(c) statutory damages provision into a pyramidical analysis. At the base level, "the statute provides little to guide a district judge in determining an appropriate amount to allow for statutory damages." The court has broad discretion in awarding an amount of damages under section 504(c), constrained only by the minimum and maximum in the \$250 to \$10,000 range. Given the

As with most discretionary court decisions, a district court award of statutory damages will only be overturned by a circuit court when there has been an abuse of

United Artists Corp. v. Freeman, 605 F.d 854, 857 (5th Cir. 1979), summarized in Morley Music Co. v. Dick Stacey's Plaza Motel, Inc., 725 F.2d 1,3 (1st Cir. 1983). These cases assume that the judge decides the statutory award. In those districts which allow a jury trial for statutory damages arguably a similar base minimum is necessary to uphold the jury's finding.

⁴⁶ Douglas v. Cunningham, 294 U.S. 207, 209 (1935). See note 43, supra and accompanying text showing the inapplicability of the evidentiary implication in this quote to cases under the 1976 Act.

⁴⁷ See e.g. United Feature Syndicate, Inc. v. Sunrise Mold Co., Inc., 569 F.Supp. 1475, 1480 (S.D. Fla. 1983).

⁴⁸ M.S.R. Imports v. Greenspan Co., Copyright L.Rep. (CCH) para. 25,571 (E.D. Pa. 1983) at p. 18, 378.

⁴⁹ Blendingwell Music, Inc. v. Moor-Law, Inc., Copyright L.Rep. (CCH) para. 25, 764 at 19, 434 ("courts have wide discretion to set damages within the statutory limits and awards of damages for more than the statutory minimum are frequent"); Quinto v. Legal Time of Washington, Inc., 511 F.Supp. 579, 582 (D.D.C. 1981). ("sound discretion").

wide variety of both copyright works and circumstances of infringement, such discretion is a "necessary flexibility to do justice." 50

From this first level of broad court discretion between \$250 and \$10,000, a second level of analysis is discernible from the statutory damages case law. This level concerns the end result which the court aims to achieve. Some courts have stated that the statutory award granted to the copyright plaintiff should have some relation to the actual damages the plaintiff has suffered;⁵¹ or that substantial award should be given for substantial injury.⁵² The basis for such aim is to prevent application of the statutory damages provision from resulting in a windfall to the plaintiff.⁵³ Clearly, this view reflects a primary goal of compensation. Another view in this second tier is that the statutory damages award should be proportionate to the defendant's culpability.⁵⁴ Possible windfall to a plaintiff is prevented by a codicil to the effect that even when culpability is great an award should be tempered when the defendant's economic gains were modest.⁵⁵ The goal of deterrence underlies such emphasis on culpability.

These two views on what the end result of the statutory damages analysis should resemble, though seeming to lead to separate methods of analyzing factual situations, blend in a third level. Although courts may appear to seek different end results, the actual factors which influence courts to award small, medium, or large awards within the statutory range are the same. These factors are both those expressly stated by the courts and ones that can be in-

discretion. Harris v. Emus Records Corp. 734 F.2d. 1329, 1335 (9th Cir. 1984). See e.g. Morley note 45, supra, affirming a trial court's discretionary statutory damage award granted upon a default judgment.

⁵⁰ F.W. Woolworth Co. v. Contemporary Arts, 344 U.S. 223, 232 (1952).

⁵¹ R.S.O., note 23, supra at 862; M.S.R. note 48, supra at p. 18, 378. And some courts apply this rule without articulating it such as in Morley, note 45, supra when after the court stated that statutory damages are determined by the courts' discretion and not by a preponderance of evidence it then granted a total award of \$4,800 which approximated the evidence of \$4,500 in lost license fees. An extreme case of dependence on actual damage evidence is Rodgers v. Quest, Inc., 213 U.S.P.Q. 212 (N. D. Ohio 1981) where the court calculated what it believed were the actual damages although the plaintiffs had only offered evidence of prior agreements and contracts with the defendants.

⁵² Doehrer, note 40, supra at 393. See note 43, supra for criticism of this case.

⁵³ M.S.R., note 48, supra at 18, 378; Doehrer, note 40, supra at 393.

⁵⁴ Milene, note 23, supra at 1296.

⁵⁵ Id. at 1297. Similarly, one court adhering to the view that statutory damages should approximate actual damages makes an exception for when willful infringement is shown. R.S.O., note 23, supra at 862.

252

ferred from the decisions. Factors specifically listed by a court are not necessarily those that actually influenced the court to make an award. Courts outwardly profess to consider a whole host of factors in determining a statutory award such as: the extent and time of the infringements; volume of the infringing business; revenues lost by the plaintiff; culpability of the infringer; and need to deter the infringer and other potential infringers.⁵⁶ It should be noted that these factors originate with the courts themselves, because neither the statute nor the legislative history⁵⁷ sets out guidelines for what a court should take into account in determining an appropriate statutory award. In addition to expressly stated factors, there are unarticulated factors which seem to influence a court's decision in determining a statutory award. Some of these implied factors are the nature of the copyrighted work that was infringed, financial circumstances of the defendant, and the number of works infringed.

The following sections of this paper will attempt to determine which of the expressed or inferred factors are likely to be determinitive in a small versus large award.

C. The Innocence Provision

The minimum statutory award a court can levy against a copyright infringer is \$100, provided the section 504(c)(2) innocence provision requirements are met.⁵⁸ This exception to the \$250 to \$10,000 range was intended to

protect against unwarranted liability in cases of occasional or isolated innocent infringement, and it offers adequate insulation to users, such as broadcasters and newspaper publishers, who are particularly vulnerable to this type of infringement suit.⁵⁹

To date, the innocence provision has only been implemented by a court once, in a case involving the infringement of several musical compositions.⁶⁰ Professor Nimmer has criticized this decision to grant

No one court has articulated all of these factors; rather they have been collected from several decisions including Blendingwell, note 49, supra at p. 25,764; Fallaci, note 40, supra at 1174; Milene, note 23, supra at 1296; M.S.R. note 48, supra at p. 18, 378-80; Quinto, note 49, supra at 582.

⁵⁷ H.Rep. at 161 does state that there "is nothing in section 504 to prevent a court from taking account of evidence concerning actual damages and profits."

⁵⁸ See note 13, supra for text of this provision.

⁵⁹ H.Rep. 163; Broadcast Music, Inc. v. Fox Amusement Co., Inc. 551 F.Supp. 104, 108 (N.D. Ill. 1982).

⁶⁰ In Broadcast Music, Inc. v. Coco's Development Corp., 212 U.S.P.Q. 714 (N.D.N.Y. 1981), the court reduced the defendant restaurant owner's liability for the infringements of five copyrighted musical compositions to \$150 per work.

an award lower than the \$250 minimum, arguing that the nature of the defendant's occupation as restaurant proprietor made a finding of innocence unreasonable.⁶¹ However, the court in this case does appear to base its decision, at least in part, by the evidence that using a "disc jockey to provide musical entertainment was... sporadic at most,"⁶² thereby satisfying the legislative intent for use of the innocence provision in a case of isolated or occasional infringement.

D. Minimum (\$250) and Small Awards

To date, courts have awarded small statutory awards in three main situations: Where the minimum of \$250 per infringed work was all that was requested by the plaintiff;⁶³ where the work infringed had little market value and, therefore, resulted in little actual damage to the plaintiff;⁶⁴ and in a smorgasbord of cases in which either the nature of the infringements or the nature of the defendant's circumstances convinced the courts that a minimum award per work, or a minimal total award, was all that was necessary to compensate the plaintiff or deter the defendant.

In this latter category, probably the best example of how the circumstances of infringement can influence a court to award a low amount rather than a more substantial one is a case in which a musical play infringed the copyrighted novel *Gone With The Wind*. ⁶⁵ The district court in this case appeared to sympathize with the defendants—viewing the infringement as a parody attempt that went awry. The court emphasized that only one showing of the infringing play had

^{61 3} Nimmer at §14.04[b][2][a] n. 17.1.

⁶² Coco's, note 60, supra at 715. Contrast this with the cases which do not follow the House Report example in note 59, supra and accompanying text of using the innocence provision to protect potential defendants such as newspapers: Quinto, note 49, supra (court awarded plaintiff \$250 for the defendant newspaper's infringement of his law review article); Fallaci, note 40, supra (court stated that the defendant's occupation as newspaper editor is such that the defendant knew or should have known that his act would constitute infringement. Fallaci at 1173).

⁶³ Chess, note 23, supra (4 musical works); Paramount Pictures Corp. v. Sullivan, 546 F.Supp. 297 (D.C. Me. 1982) (21 motion pictures).

Quinto, note 49, supra (student law review article — court considered fair market value of article and amount defendant saved by copying); Doehrer, note 40, supra (cartoon — court found that defendant sustained minimal, if any, damages). It is probably safe to say that these courts adhered to the view that the statutory damage award should approximate actual damages, see notes 51-2 supra and accompanying text. However, if additional factors had been before the courts, such as a prior relationship between the parties, the courts may well have awarded more than the actual damage amounts. See e.g. cases at note 80, infra.

⁶⁵ Metro-Goldwyn Mayer, Inc. v. Showcase Atlanta, 217 U.S.P.Q. 857 (N.D. Ga. 1981).

been made and that the defendants had already incurred substantial losses with the show's early closing.⁶⁶ The court awarded the plaintiffs \$500. Similarly, in a case⁶⁷ involving the infringement of five musical compositions, the court, out of sympathy for the defendant, awarded the \$250 minimum for each work, despite the plaintiff's numerous contacts with the defendant concerning the infringement claims:

In some circumstances, the numerous contacts ASCAP made with the defendant or her husband would provide sufficient cause for making more than a minimal award. In this case, however, where it appears that defendant has not profited from the infringements and will be forced out of the club business altogether by financial difficulties, we see little deterrent value to awarding plaintiffs more than the minimum statutory damages plus attorney's fees. 68

In both of these cases, the infringing circumstances led the courts to de-emphasize the plaintiffs' interests, perhaps to avoid a windfall to the plaintiffs, ⁶⁹ and to instead focus on the effect of a statutory damages award on the defendants.

Other infringement circumstances which appear to have influenced courts to make awards at the low end of the statutory range have been a large number of works which, at the minimum award, each results in a large award total, 70 and a small number of infringements of one work. 71 In addition, the existence of a positive relationship between the defendant and plaintiff has, at least in one case, been a

⁶⁶ Id. at 859.

Stygian Songs v. Patten, Copyright L.Rep. (CCH) para. 24,539 (D. Kan. 1982).

⁶⁸ Id. at p. 18,175. Compare both Showcase, note 65, supra and Stygian with Blendingwell, note 49, supra in which the court awarded the plaintiffs \$500 for each of their 18 copyrighted songs, even though the defendant was bankrupt.

Blendingwell is more in line with the old copyright adage "if music did not pay it would be given up," Herbert v. Shanley Co., 242 U.S. 591, 595 (1917). This maxim was followed in Leigh, note 39, supra: "Defendants have chosen to enhance the profitibility of their establishment by providing public performance of musical works" and "those who profit from copyrighted music are obliged to pay not only the piper but the author," Leigh at 115-116.

⁶⁹ See note 53, supra and accompanying text.

Fox Amusement, note 59, supra (57 musical compositions infringed by the defendants' jukeboxes; court awarded \$250 per work). Compare. Broadcast Music, Inc. v. Allen Genoa Rd. Drive-In, 598 F.Supp. 414 (S.D. Tex. 1984) (9 musical compositions infringed by defendant's jukeboxes; court awarded the defendant \$1,000 per work). These differing outcomes for the same plaintiff and the same type of infringements show how application of the statutory damage provision can lead to inconsistent results.

⁷¹ Showcase, note 65, supra (only one performance of the infringing play occurred).

factor in leading the court to award the minimum statutory award.⁷²
No one factor, as expected, led courts to award plaintiffs \$250 or small awards, rather than larger awards. What is apparent, though, is that in the case law to date, courts have tended to focus more on the effect that an award may have upon the defendant and the plaintiff, than directly on the plaintiff's actual damages or the defendant's culpability.

E. Large Awards

In contrast to the decisions granting small statutory awards, the two alternate views on what a statutory damage should represent — the degree of monetary harm suffered by the copyright owner or the degree of the infringer's culpability — are evident in the opinions of courts which awarded large statutory damages.

A case which represents the first of these views, or the parallel relationship between actual and statutory damages, is Morley Music Co. v. Dick Stacey's Plaza Motel, Inc. 73 In Morley the defendants infringed four musical composition copyrights owned by the plaintiffs by permitting public performances of the works in their entertainment establishment. The court cited several facts it took into account in determining an appropriate statutory award, including the plaintiffs' contacts with the defendant, \$4,500 in lost license fees, the probability of defendants' having committed past infringements, as well as the substantial nature of the defendants' business.74 Despite this evidence of both the plaintiffs' actual damages and the defendants' culpability, the court awarded only \$1,200 per work for a total of \$4,800, or a sum very close to the amount of the lost license fees. The court in Morley, then, seems to have been concerned with compensating the copyright owners, rather than with deterring the infringers.

In Fox Amusement, note 59, supra at 109 the court drew inferences of good faith from the fact that the defendant had previously complied with a license arrangement and then had paid default payments after the plaintiff had given notice of the infringements. However, resumption of a licensing arrangement did not appear to affect the courts' decisions to award higher amounts in either Milene, note 23, supra (\$625 per infringement for 8 infringements of 6 musical compositions); or in Vernon Music Corp. v. First Dev. Corp., Copyright L. Rep. (CCH) para. 25,723 (D. Mass. 1984) (\$750 for each of 10 musical compositions). Furthermore, the reverse factual situation, or the existence of an adversarial relationship between the parties, has led to higher awards, see notes 80-81, infra and accompanying text.

⁷³ Note 45, supra.

⁷⁴ Morley, note 45, supra at 753.

⁷⁵ M.S.R., note 48, supra.

A compensation goal is also evident in the decision of a Pennsylvania district court in a case which involved the infringement of two miniature wagon replicas by an importer. Even though the court expressly found the defendant's actions to, in part, constitute willful infringement, the court awarded the plaintiff \$10,000 for each work. This total approximated both the defendant's gross profits on the infringing sales and the estimated gross profits for additional sales lost by the plaintiff due to the defendant's acts.

The second view of the statutory damage end result, requiring the statutory award to be proportionate to the defendant's culpability, has had more following in the case law than the view that statutory damages should approximate actual damages. A reason for this may be due to the multitude of factors that can reflect the infringer's state of mind. For example, one court emphasized the nature of the defendant's occupation as a newspaper editor and found that the defendant knew or should have known his actions constituted infringements.⁷⁸ Other courts have implied or expressly drawn negative inferences because the infringers' businesses were those with reputations for ignoring the copyright laws. 79 The bulk of the cases centering on the culpability of the defendant, however, concern factual scenarios in which the plaintiff and the defendant had been in contact prior to the infringing action because of a previous licensing agreement, prior litigation between the two parties, or notice given the defendant of the plaintiff's copyright claim. 80 When determining

⁷⁶ M.S.R., note 48, supra at p. 18, 379.

⁷⁷ The court estimated the defendant's gross profits to be \$17,238.50 and the plaintiff's lost profits on additional sales to be more than \$20,000. M.S.R., note 48, supra at p. 18, 378-9.

⁷⁸ Fallaci, note 40, supra. But, see discussion of this case in the context of the innocence provision, note 62, supra.

United Feature, Inc. v. Spree, Inc., 600 F.Supp. 1242. (E.D. Mich. 1984) and Rheingold, note 23, supra (infringing heat transfers for T-shirts); Sunrise Mold, note 46, supra (infringing plastic molds). Both of these types of businesses apparently have long histories of violating the copyright laws. It should be noted that these cases all involved the infringement of copyrights in famous cartoon characters. Undoubtedly the high value of the rights in these works was a factor influencing the courts to award high statutory damages. See also R.S.O. note 23 supra (record piracy).

Rodgers, note 51, supra (prior licensing relationship and prior litigation between the parties and court awarded the plaintiff \$750 for each of the 37 musical compositions infringed); Leigh, note 39, supra (prior licensing agreement and plaintiff gave defendant notice of copyright claims and court awarded \$1,000 for each of 6 musical compositions); Blendingwell, note 49, supra (notice given and \$500

a statutory award, courts have also emphasized culpability by taking into account previous copyright infringement suits brought against the defendants by different plaintiffs.⁸¹ The next section will show how such evidence has been important in proving willful infringement under section 504(c)(2).

The majority of courts which have awarded substantial statutory awards have relied upon factors which concern the state of the infringer's mind, or the degree of the infringer's culpability. This points to an underlying goal of deterrence. The purpose of emphasizing culpability rather than compensation has been explained by Judge Sand of the Southern District Court of New York:

A willful infringer \dots should be liable for a substantial amount over and above the market value of a legitimate license for otherwise infringers would be encouraged to willfully violate the law knowing the full extent of their liability would not exceed what they would have to pay for a license on the open market.

A goal of compensation, then, requires reliance primarily on evidence of actual damages. By contrast, a goal of deterrence, as the case law illustrates, allows a court to examine many different aspects of a case. The defendant's culpability can be shown by several factors and such evidence can influence a court to award an amount at the high end of the statutory range.

F. The Willfulness Provision

What is the difference between a court finding the defendant culpable and awarding the plaintiff \$10,000 and a court finding the

awarded for each of 18 musical compositions); Hideout Records & Dist. v. El Jay Dee, Inc., 601 F.Supp. 1048 (D.Del. 1984) (notice given and court awarded \$500 for each of 7 musical compositions); Question Mark, note 39, supra (prior contacts and court awarded \$10,000 for each of 9 musical compositions); George Simon, note 39, supra (prior contacts and court awarded \$500 for each of 7 musical compositions). Compare Warner Bros., Inc. v. Lobster Pot, Inc., 582 F.Supp. 478 (E.D. Ohio 1984) (prior contacts but only minimum statutory damage awarded for each of 10 musical compositions infringed) and Fox Amusement, note 59, supra (prior licensing agreement but court awarded only the minimum for each of 57 musical compositions infringed by the defendant's jukeboxes as discussed on notes 70 and 72, supra).

- 81 Morley, note 45 supra; Blendingwell, note 49, supra; Hideout, id.; Rogers, note 51 supra.
- 82 Fallaci note 40, supra at 1174. The court here is using the term "willful" to mean knowingly or deliberately, rather than \$504(c)(2) willful. Since courts use culpability to determine an award within the \$250 to \$10,000 range, and proof of culpability is a large factor in granting awards greater than \$10,000 under \$504(c)(2), there is an overlap in the objectives of many cases resulting in a high statutory award within the range with cases resulting in willful awards.

258

defendant to have willfully infringed the plaintiff's copyright and awarding more than \$10,000 pursuant to section 504(c)(2)? One court has attempted to explain the distinction:

Between complete innocence and willfulness may be a degree of fault based upon a negligent failure to ascertain whether the product infringes a copyright, or a reckless disregard for whether there is infringement.⁸³

Another court has stated "that a finding of willfulness requires something more than a mere knowledge of infringement." However, examined in the context of what evidentiary requirements are needed to prove "reckless disregard," "mere knowledge" or willfulness, the terms become indistinguishable. Does the existence of a prior licensing relationship between the parties mean the defendant had mere knowledge that his later acts were infringing, or that he recklessly disregarded the plaintiff's rights, or that he acted willfully?

There is an overlapping "gray area" of factors that courts have considered in awarding both large statutory awards within the basic range and section 504(c)(2) willful damages. The willfulness provision simply provides that if willfulness is proved, the court may increase the damage award to \$50,000.85 Indeed, there has been at least one decision in which the court declined to award the plaintiff more than the statutory range maximum even though an express finding of willfulness was made.86 Unfortunately, the unpredictability of large awards is of greater significance and concern to the copyright plaintiff than that for smaller awards (there is a greater monetary difference between \$10,000 and \$25,000 than between \$250 and \$500).

Despite this "gray area," the instances in which courts have applied the willfulness provision and awarded the plaintiff more than \$10,000 per copyrighted work have been in definable circumstances. They have been in cases in which the culpability factors were glaring or numerous.⁸⁷ The most colorful example of the use of the willfulness provision is found in a series of cases which involve the same de-

⁸³ M.S.R., note 48, supra at p. 18, 379.

⁸⁴ Blendingwell, note 49, supra at p. 19, 435 n.18. In this case the court found that the defendants knowingly permitted violations of the plaintiff's rights, Blendingwell at p. 19, 434.

⁸⁵ See text of the §504(c)(2) willful provision, note 13, supra.

⁸⁶ M.S.R., note 48, supra at p. 18, 379. The court in this case found that the statutory range maximum was sufficient to compensate the plaintiff and deter the defendant, thereby implying that any more would result in a windfall to the plaintiff.

⁸⁷ All of the cases to date in which a court has held the willful provision requirements to be met are clear-cut, unlike the one case in which a court has invoked the innocence provision. See notes 61-62, supra and accompanying text.

fendant. Mr. Martin Levine and his corporate alter egos have been sued numerous times for copyright infringement of fabric designs. In the reported cases, the statutory damage provision was invoked. In Lauratex Textile Corp. v. Allton Knitting Mills, Inc.88, the court awarded the plaintiff \$40,000 based on evidence of the defendant's gross profits, circumstances of the infringement and numerous suits brought previously by others against him for similar infringements. A year later, the same corporate president was sued in *Pret-A-Printee*. Ltd. v. Allton Knitting Mills, Inc. 89 under almost identical circumstances. The court, erroneously as it turns out, stated the defendant appeared to have reformed his practice of infringing the copyrights of others and awarded only \$30,000 in willful damages.90 The Pret-A-Printee decision was erroneous because two years later the same defendant was again found guilty of copyright infringement in Kenbrooke Fabrics, Inc. v. Holland Fabrics, Inc. 91 The Kenbrooke court stated that the Pret-A-Printee court's reliance on the defendant's apparent reform was misplaced since Mr. Levine had been sued for copyright infringement twice since that decision. 92 The court awarded the "maximum maximum" of \$50,000 to the plaintiff and summed up the case series:

[I]t may be said without much exaggeration that Mr. Levine has had the unique opportunity to shape the law relating to textile copyright in this district.⁹³

Although these cases arguably show the extreme of willfulness infringement, the small pool of willfulness provision case law shows that Mr. Levine has also had the unique opportunity to shape the law concerning the statutory damage willfulness provision. The textile design infringement cases focused on evidence of the defendant's prior infringements against other copyright owners. The other major contributions to the willful infringement case law are two cases which involved famous cartoon characters from the "Garfield" and

^{88 517} F.Supp. 900, 519 F.Supp. 730 (S.D. N.Y. 1981).

^{89 217} U.S.P.Q. 150 (S.D. N.Y. 1982)

⁹⁰ Id. at 154.

^{91 602} F.Supp. 151 (S.D. N.Y. 1984)

⁹² Id. at 156.

⁹³ *Id.* at 155-6.

⁹⁴ Spree, note 79, supra (defendant's T-shirt heat transfers infringed two "Garfield" character copyrights; court awarded the plaintiff \$50,000 for each work).

"Peanuts" comic strips. Both courts emphasized that the defendants knew their acts constituted infringement. In the "Garfield" case, the defendant had previously been successfully sued by the plaintiff, while in the "Peanuts" case, the defendant's willful knowledge primarily came from the bad faith reputation of his business. 96

The willfulness provision, as shown by these cases, ⁹⁷ has only been applied in extreme infringement circumstances. Although, theoretically, there may not be a discernible line between the combination of factors which influences a court to award an award at the high end of the statutory range and those which cause a court to make a section 504(c)(2) willfulness finding, at least the cases in which more than \$10,000 per work was awarded involved clearly culpable defendants. ⁹⁸

IV. STATUTORY DAMAGES AND THE "REAL WORLD"

Remedy provisions are probably the most frequently interpreted sections within statutes. Therefore, their implementation by the courts is usually the most predictable. The section 504(c) statutory damages section is an exception to this rule. A discretionary range from \$250 to \$10,000 makes prediction of result inherently difficult. Can any generalities be made as to when a copyright owner should elect section 504(c) statutory damages rather than section 504(b) actual damages? The case law does seem to substantiate several general statements. Statutory damages appear to be a good option when:

 the copyright owner wants to spend as little time and money possible in bringing suit because opting for statutory damages without providing evidence of damages or any other factors will result, at least, in a \$250 per work award.⁹⁹

⁹⁵ Sunrise Mold, note 46, supra. (defendants' plastic molds infringed eleven "Peanuts" characters; court awarded the plaintiff \$25,000 for each work). See also Rheingold, note 23, supra (defendants' T-shirt transfers infringed two "Peanuts" characters; court awarded the plaintiff \$8,000 per work).

See note 79, supra, and accompanying text. Additionally, the obviousness of the great value of copyrights in famous comic characters likely added weight to the plaintiffs' cases. Spree, note 79, supra at 1246.

⁹⁷ Only one other case to date has involved the implementation of the willfulness provision to date. R.S.O., note 23, supra (record piracy).

⁹⁸ See note 87, supra.

Costs and attorneys' fees pursuant to 17 U.S.C. §505 are also available upon election of statutory damages. Although R.S.O., note 23, supra at 864, held that courts generally restrict awards of attorneys fees to actions in which willful infringement

- the plaintiff has evidence of the defendant's culpability which could lead to an award based on deterrence, either within the statutory range or under the willful exception.
- 3. the court renders an unsatisfactory verdict on actual damages.

The first of these options is best exemplified by cases in which plaintiffs requested and received the \$250 minimum award. The second option is less predictable but appears to be dependent upon the number and strength of the factors the plaintiff presents to prove the defendant's culpability. The final option is just that — a last resort option. Although there is no case in which a plaintiff chose statutory damages after obtaining an actual damages verdict, at least the opportunity to do so exists. 102

In any event, a review of the case law in the jurisdiction of the suit, which concerns the type of work infringed and which has similar factual circumstances is necessary for the copyright plaintiff to determine what factors will likely influence the court to award damages of \$250 versus \$10,000 for each work infringed.

V. CONCLUSION

This paper has presented an overview of the mechanics and application of the statutory damages provision in the 1976 Copyright Act. ¹⁰³ Although most of the ambiguities that existed in the previous statutory damage provision no longer exist in the current Act, there are still a few problems in interpretation — particularly whether a damage award is made per infringement or per work infringed, and whether a jury trial on the statutory damage issue is available.

The underlying goals of the statutory damages provision — compensation and deterrence — are often cited by the courts. However, as the case law has shown, the ultimate award of statutory damage appears to be primarily influenced by the factors in the case which the court chooses to consider, be they evidence of actual damages, prior

is involved, a reading of the case law shows that attorneys fees are routinely granted on statutory damages suits. See e.g. Warner, note 80, supra at 484.

¹⁰⁰ See note 63, supra and accompanying text.

See case examples at notes 78-81, supra. To a degree, the amount of actual damages may also be relevant if the court is concerned about the plaintiff receiving a "windfall." See notes 53 and 54, supra and accompanying text.

¹⁰² See note 38, supra.

¹⁰³ Note 1, supra §504(c).

relationship of the parties, the defendant's financial circumstances, or others. A few general predictions were made when statutory damages should be elected. These predictions will likely need to be modified over time because, as a recent court has stated, "the case law on statutory damages is still in its formative stages."104

¹⁰⁴ R.S.O. note 23, supra at 862.

PATENTS FOR BIOTECHNOLOGY

DONALD G. DAUS*

When Thomas Jefferson wrote the Patents Act of 1793, he was determined to ensure that "ingenuity should receive a liberal encouragement." In a decision which enunciated major policy in the form of statutory construction, the Supreme Court of the United States followed Jefferson's determination. The Court held that a man-made bacterium is patentable subject matter within the meaning of 35 U.S.C. §101. This Section provides:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to all the conditions and requirements of this title.

It retains almost all of Mr. Jefferson's original language.

There had been few attempts to patent living matter initially. Louis Pasteur succeeded.² An attempt to patent a part of a plant did not³ since it was a product of nature.

The first patents for biotechnology processes were for fermentations using conventional micro-organisms where there were few description problems.

In the depression, extending benefits of the patent system to the agricultural community was attempted as a form of economic incentive. This resulted in the Plant Patent Act (PPA),⁴ the world's first.

^{*©} D.G. Daus, 1985. Supervisory Patent Exminer, Art Unit 122 USPTO, member, DC and Virginia Bars. The views expressed herein are personal and do not represent official views of the PTO or any unit therein. The article is based on a presentation to the Japan Patent Office Society in July, 1985.

¹ Diamond v. Chakrabarty, 447 U.S. 303, 100 S.Ct. 2204, 206 U.S.P.Q. 193 (1980).

² U.S. Patent 141,072 (1873) to yeast.

³ Ex parte Latimer, 1889 CD 123 (1889).

^{4 35} U.S.C. §§161 to 164.

Plant Patents

35 U.S.C. §161 provides:

Whoever invents or discovers and asexually reproduces any distinct and new variety of plant, including cultivated sports, mutants, hybrids, and newly found seedlings, other than a tuber propagated plant or a plant found in an uncultivated state, may obtain a patent therefor, subject to the conditions and requirements of title.

The provisions of this title relating to patents for inventions shall apply to patents for plants, except as otherwise provided.

The exclusion of tuber propagates precludes patenting of Irish potatoes and the Jerusalem artichoke.

An early CCPA decision, *In re Arzberger*,⁵ held that bacteria were not plants within the meaning of the PPA. Arzberger's organism was used in fermentation to produce commercial solvents.

As organisms were artificially modified to produce improved yields of antibiotics, the practice developed of depositing samples of the novel organisms in recognized depositories in order to comply with the enablement requirements of 35 U.S.C. §112.

While *Chakrabarty* was pending at the Supreme Court, Cooper⁶ urged that bacteria were properly patentable under the PPA, and that the *Arzberger* holding that bacteria are not plants under the PPA was wrong.

In Ex parte Solomons et al,⁷ a claim for a microscopic fungus was allowed under the PPA. Arzberger was not discussed by the Board of Appeals. Although the PPA was intended to benefit farmers, ornamental plants had been most frequently patented.⁸

35 U.S.C. §162 provides:

No plant patent shall be declared invalid for noncompliance with Section 112 of this title if the description is as complete as is reasonably possible.

The claim in the specification shall be in formal terms to the plant shown and described.

Although §162 would appear to make deposits unnecessary, Solomons et al had in fact deposited their strain in a culture collection.

In re Greer⁹ is a CCPA holding that §162 does not excuse the patentee from having to describe advantages urged to distinguish from

- ⁵ 112 F.2d 834, 46 U.S.P.Q. 32 (CCPA 1940).
- ⁶ I.P. Cooper, 78 Pat. & TM Rev. 59 (1980). For views on patentability of living creatures generally, see his article 38 F. Bar J. 34 (1979).
- ⁷ 201 U.S.P.Q. 42 (PTO Bd App. 1978), Plant Patent 4,347.
- ⁸ D.G. Daus, 21 Economic Botany 388 at 392 (1967).
- 9 179 U.S.P.Q. 301, 484 F.2d 488 (CCPA 1973). The decision appears at variance with the Supreme Court interpretation. The CCPA did not discuss the multiple alleged anticipatory rejections.

prior art Bermuda grasses. The CCPA distinguished *In re LeGrice*¹⁰ in that §162 excused the §112 enablement requirement, but not a §112 requirement for description of the distinctness.

As provided in \$163, the patent grant is the right to exclude others from asexually reproducing, using or selling the plant so reproduced. The plant need not be fully matured and not yet showing all characteristics, 11 such as its flower, in order for the asexual reproduction to be infringement.

There have been repeated resolutions by the American Bar Association to add the additional provision "any part thereof" to §163. The purpose of the change would be to subject the sale of imported cut flowers, especially chrysanthemums and roses to infringement of plant patents. Taking of cuttings has been held to be infringement of a plant patent¹² since cuttings are a means of asexual reproduction.

A disadvantage of the PPA, at least for creative claims draftsmen, is the formalized requirement for the single claim permitted. This may more than offset the potential advantage of possible non-deposit, as well as exemption from maintenance fees.

Deposit of Cultures

For simpler organisms such as bacteria, the deposit of a viable sample in recognized culture collections was a means of augmenting the limitations of words for describing such inventions. The deposit assured compliance with the "how to make" and "description" requirements of §112. Such a deposit also met the repeatability requirement in European practice¹³ — for example the *Bakers Yeast* case, ¹⁴ (or in Japanese practice). ¹⁵ An official headnote states that product protection for a new micro-organism is allowable if the inventor shows a reproducible way to produce the new organism. Wegner ¹⁶ interprets the decision as permitting patenting of the micro-organism as a chemical invention.

^{10 301} F.2d 929, 133 U.S.P.Q. 365 (CCPA 1962).

Yoder Bros. v California-Florida Plant Corp., 537 F.2d 1347, 193 U.S.P.Q. 264 (5 Cir. 1976).

¹² See Note 11.

For an extensive, international bibliography on deposits see A. Huni, 8 IIC 501 (1977).

¹⁴ 6 IIC 207 (1975) German Federal S.Ct 1975.

¹⁵ I. Hayashi, 7 APLA QJ 306, 311 (1979). Aoyama describes Japanese practice pp. 1-35 of Eisen et al., Ed. AIPLA Review, "Claiming Biotechnological Inventions," (1985).

^{16 7} IIC 235 (1976).

The practice of requiring deposits for micro-organisms which made antibiotics was considered by the CCPA in *In re Argoudelis et al.*¹⁷ This decision permitted the public availability of the deposit to be conditioned on the grant of the patent. Without a deposit, the specification *per se* could not be in compliance with the enablement requirement of §112, even though complying with the description requirement.¹⁸

In Feldman v. Aunstrup¹⁹ the issue arose in the context of deposits for the benefit of Paris Convention priority in an interference, Aunstrup having deposited his culture at Baarn (in Holland), for both his UK and U.S. applications. The party Feldman unpersuasively urged that the Baarn deposit was not sufficient to make the UK and U.S. applications comply with the §112 enablement requirement and precluded grant of Convention priority. The CCPA referred to the sample requirement authority provided in 35 U.S.C. §114, second paragraph:

When the invention relates to a composition of matter, the Commissioner may require the applicant to furnish specimens or ingredients for the purpose of experiment.

The foreign depository was held to be sufficient on the theory that during pendency of the application, the PTO Commissioner could have required samples of the organism.

The need for deposit may be less where readily available organisms may be employed. In a case where many well known organisms could be used in a claimed process without extensive experimentation, the lack of a deposit was not fatal: *Tabuchi et al* v *Nubel et al*.²⁰

Yet another reason to consider a deposit of the starting material micro-organism is to make certain the patent, if issued, will be an enabling reference. The CCPA held a description and picture of a rose plant in a catalogue was not enabling so as to render the claim unpatentable in *LeGrice*.²¹

¹⁷ 434 F.2d 1390, 168 U.S.P.Q. 99 (CCPA 1970). The author's views appear in 54 JPOS 187 (1972).

The description should be similar to those requirements of the "Examination Standard for Invention of Applied Microbial Industry," published by Japanese Group of AIPPI, 1975.

¹⁹ 517 F.2d 1351, 186 U.S.P.Q. 108 (CCPA 1975), cert. denied, 424 U.S. 912 (1976). Cf. In re Breslow, 616 F.2d 516, 205 U.S.P.Q. 221 (1980), in which the CCPA held the second paragraph of §114 to be an obsolete practice, rarely used.

²⁰ 559 F.2d 1183, 194 U.S.P.Q. 521 (CCPA 1977).

²¹ See Note 10.

The prior art rejection in the Argoudelis case was not pressed since no deposit was mentioned in the Anzai reference.²²

An expanded panel of the PTO Board of Appeals held claims involving the use of newly discovered but naturally occurring micro-organisms were only enabling to the extent that the claimed invention was available to the public through deposits. Specifically, claims to the individual deposited strains and their mutants were upheld. "Genus" claims to a class of strains characterized taxonomically as a bacterial species were denied as being nonenabling under §112.²³

If a deposit is provided, there is a risk that someone will obtain and modify the strain and possess a competitive patentable strain.

Hayashi²⁴ notes that deposits do not become available when an unexamined Japanese application is initially published (Kokai) but only when the examined application is published for opposition (Kokoku). Section 27 bis of the Japanese regulation requires deposit of the micro-organism in an approved depository, except where the organism is easily obtainable. The Fermentation Research Institute, Agency of Industrial Science and Technology (FERM) has been approved as a depository.

An issue of concern to U.S. applicants is the duration of availability for the deposited micro-organism. The U.S. Manual of Patent Examining Procedure (MPEP)²⁵ requires assurance of "permanent availability of the culture to the public." The PTO generally will accept a deposit meeting the Budapest Convention requirement as meeting the permanency test. Appeal of a rejection on the lack of permanency of a deposit was withdrawn before the Board of Appeals ruled on the issue. Copies of contracts for maintenance of the cultures may be required.

Problems with foreign deposits will tend to fade as more states adhere to the Budapest Convention,²⁶ which permits states to designate International Depository Authorities meeting certain standards and requirements. The U.S. has designated the ARS Culture Collection and the ATCC; Japan, FERM. The Convention entered into force in August 1980.

²² Ex parte Argoudelis, 157 U.S.P.Q. 437, 439 (BA 1967).

Ex parte Jackson et al. 217 U.S.P.Q. 804 (B.A. 1982). This appears stricter than Japanese practice as set out on page 9 of their examination standards of Applied Microbial Industry.

²⁴ See Note 15 at 306 and 319.

²⁵ §608.01(p)C. (5th Edition 1983).

²⁶ Text is at 961 OG 21-36 and 16 Ind. Prop. Text 2-004,001 to 009 (May 1977).

Schlosser²⁷ discusses the Budapest Convention. Replacement of nonviable deposits is authorized; the deposit may not be returned, however. Viability tests are required.

Timing of the Deposit

Argoudelis involved a deposit before filing the U.S. application, availability of the culture was conditioned on the grant.

A recent unpublished decision²⁸ of an augmented 18 member Board of Appeals has as its central issue whether or not 35 U.S.C. §112 requires deposit of a biological material in a public depository prior to the filing date of the U.S. application. Fourteen members of the Board held that the disclosure of the application was insufficient since no deposit had been made in a public depository prior to the U.S. filing date. While the majority did not squarely face the issue of a public versus private depository, it noted that substantial evidence of availability and permanence of the deposit would be necessary for serious consideration of the adequacy of a private depository as meeting the §112 requirements. The biological material had been disseminated to several universities for private deposit and, apparently erroneously, the deposit of the human cell line in the ATCC was not made until seven days after the U.S. filing.

The majority noted that, even in regard to a public depository, the permanency of the deposit must be proven by evidence of a contract with the depository for maintenance of the deposit for either thirty years (in accord with the Budapest Convention) or "permanent" as required by MPEP.

On appeal²⁹ the PTO urged that if a patent applicant were allowed to deposit after the filing date, there could be no guarantee that the biological material deposited was even in existence as of the filing date, if it had characteristics identical to those in the specifications as filed, or that the applicant had reduced the invention to practice. Requiring the deposit be made as of filing removes any question as to the identity of the cell line described in the specification.³⁰

Lundak argued that the deposit does not change the written specification, it is merely a tangible embodiment of the written specifica-

²⁷ 12 Toledo L. Rev. 925, 935-41 (1981).

²⁸ Ex parte Lundak, 21 Aug. 1984.

²⁹ To the CAFC, No. 85-887, argued 9 May 1985.

³⁰ E.g. In another unpublished case, the subsequently filed organism was described as isolated from a different place than in the specification.

tion. Appellant did not argue that a deposit was unnecessary, only that the deposit need not precede filing for patent.

The CAFC ruled^{30a} in Lundak's favor. Detailed procedure for obtaining his hybridomas from a known cell line filled twelve pages of the specification. Lundak had filed in the belief that the ATCC deposit had been perfected. The CAFC noted that the MPEP did not specifically preclude private depositories and that the PTO had denied Lundak's petition for a later filing date. Footnote 3 of the decision states that if the PTO had considered the original date fatally flawed, it should have granted his petition for the later filing date. Although Lundak's mandamus action seeking to compel the PTO to change his filing date was consolidated with his appeal of the Board decision, the CAFC did not grant or deny the mandamus, apparently considering it mooted.

The CAFC's reasoning begins with acknowledgment that its predecessor court in *Argoudelis* approved the applicant's procedures: conditional deposit in a (government) depository, going on to reason that the decision in *Feldman v. Aunstrup*, acceptance of a culture deposit in a recognized private repository was adequate for \$112 purposes. The "controlling criteria were the permanent availability of the culture and assurance of access upon issuance of the patent."

The CAFC saw no "controlling" distinction between Aunstrup's deposit at Baarn and Lundak's deposit at the University of California. The PTO could obtain samples of the culture from either. Since Lundak had also deposited at ATTC, conditions for permanence of the deposit were met. The CAFC expressly holds that the culture sample need not be provided the independent depository prior to the filing date of the patent application, and that insertion of reference to the accession number for the subsequent depository is not "new matter."

With respect to new matter, the CAFC relied on In re Hawkins^{30b} for precedent. In Hawkins, replacement of reference to a UK patent application by the text thereof (accompanied by appropriate declaration of applicant that no new matter was added) was sufficient to assure enablement on issue of the patent, and that no new matter was introduced by the change.

The CAFC reasoned that "an accession number and deposit date add nothing to the written description of the invention" since they do

³⁰a In re Lundak 227 U.S.P.Q. 90 (1985).

^{30b} 486 F.2d 569, 179 U.S.P.Q. 157, 161 (CCPA 1973) wherein information from an official repository was permitted to be inserted without violation of 35 U.S.C. 132 new matter.

not enlarge or limit the disclosure. Thus it is not new matter against which §132 was designed to guard.

The PTO's concerns about possible sham applications were noted, since the deposits were with third parties, the examiner must rely solely on written description. The CAFC holds there is no greater or less risk of dishonesty in Lundak's procedure than any other.^{30c}

The complementary PVPA has an absolute requirement for deposit, and is limited to sexually reproducible plant varieties, excluding bacteria, fungi and first generation hybrids.

Plant Variety Protection Act (PVPA)

The PVPA of 1970 has been amended by Public Law 96-574, partially to reflect the U.S. adherence to the Geneva Act³¹ of the International Convention for the Protection of New Varieties of Plants (UPOV). The term of protection is extended by one year, to eighteen — 7 U.S.C. §2483(b) — and the exclusion for "soup vegetables"³² is also removed. The PVPA resembles patent protection, although administered by the Plant Variety Protection Office of the Department of Agriculture.

7 U.S.C. §2401 provides that a novel variety, to be eligible, must possess:

(1) distinctness;

(2) uniformity, in that any variations are describable, predictable and commercially acceptable; and

(3) stability — the ability to remain essentially unchanged when sexually reproduced.

7 U.S.C. §2402 provides statutory bars — in other words where:

- a variety publicly existed before the critical date, effectively available to workers in this country and adequately described in publications;
- (2) application for the variety was filed in a foreign country more than one year prior to the U.S.;
- (3) another is entitled to an earlier date.

Query-would a belated deposit limit the \$102(e) date to the date of actual deposit in a recognized depository? Cf. In re Lund et al., 376 F.2d 982, 153 U.S.P.Q. 625 where the effective \$102(e) date for an example not carried over into an issued daughter patent was the issue date. Would a private deposit qualify for Paris Convention priority? It can be urged that deposit in a recognized depository would be best.

³⁰c Query-what effective date under 35 U.S.C. 102(e) would be accorded Lundak's patent?

Text and discussion appear at 18 Ind. Prop. 31 and Text 1-004,001 to 012 (Feb. 1979).
The U.S. adhered in October 1980.

³² Okra, celery, peppers, tomatoes, carrots and cucumbers.

The protection afforded by the PVPA is set out in 7 U.S.C. §2483 as the right to exclude others from selling, offering for sale, reproducing, importing or exporting the variety protected (or using it to produce a different variety or hybrid) as well as requiring that all sales be identified by the variety name only.

The term, now eighteen years, may be shortened if the owner fails to comply with regulations regarding replenishment of seed in the public repository (at Fort Collins, Colorado). There is reexamination provided in 7 U.S.C. §2501, within the first five years.

In ten years, 632 certificates had been granted on 980 applications. About ten percent were from government experiment stations and twenty percent from larger companies. Primarily commercial varieties are protected, principally soybeans (some 120 varieties).

The UPOV Convention contemplates protection for a broad range of plant varieties. In principle its Article 2(1) does not permit dual coverage; but its Article 37(1) permits both plant patent coverage and "special title" protection (PVPA) to coexist for the same genus, (e.g. Kentucky bluegrass) since these were available prior to U.S. adherence to UPOV. Article 2(1) provision of the UPOV would not permit PPA or PVPA protection and additional industrial patent protection for the same genus.

The *Chakrabarty* Court has determined that PVPA and PPA are exceptions to the prohibition of ordinary patents for products of nature. The scope of that concept must be considered.

Product of Nature

Section 101 requires that patentable inventions must be "new." If something as claimed has previously existed, it is not new and is not patentable.

The Court in *Chakrabarty* used as an example a mineral found in nature as not patentable. The CCPA has held a synthetic mineral^{32a} and vitamin³³ unpatentable as inherent.

More recent and more liberal is the CCPA decision In re Bergstrom et al,³⁴ which requires that "new" in §101 is defined by "novelty" in §102, and that express description is required to anticipate. King was distinguished partly on a limitation of "pure" in the claims.

Purity is often a means to avoid a "product of nature" or "inherency" rejection. This is particularly effective where the purified

^{32 a} In re Merz, 97 F.2d 599, 38 U.S.P.Q. 143 (CCPA 1938).

³³ In re King et al, 107 F.2d 618, 43 U.S.P.Q. 400 (CCPA 1939).

^{34 427} F.2d 1394, 166 U.S.P.Q. 256 (CCPA 1940).

natural product has a new function not shared by the crude natural product. Hence, the reliance on "biologically pure" as a limitation in *Bergy*. The Bergy culture could be used to make an antibiotic — the original soil containing the micro-organism could not.

The ultimate in this approach is *In re Seaborg*,³⁵ in which prior existence of new elements in trace amounts incapable of analysis did not bar claims to the new elements.

Analogy Processes

The CCPA holding In re Mancy et al³⁶ had permitted patenting of analogy process claims drawn to the use of bacteria to make a product, suggesting that the bacterium was not patentable (while chemical intermediates were) as a rationale for not following repeated holdings that chemical analogy processes were unpatentable. This increased the expectation that bacteria isolated from naturally occurring material were not patentable subject matter. This set the stage for the Chakrabarty and Bergy cases.

History of Chakrabarty and Bergy

Chakrabarty invented and assembled a new *Pseudomonas* by introducing four different plasmids³⁷ into a single living *Pseudomonas* aeruginosa cell which then reproduced. He and co-workers had previously discovered that plasmids controlled oil degradation abilities of certain bacteria. By introducing four different plasmids of diverse oil component degradation capabilities, the resultant *Pseudomonas* could degrade crude petroleum spills. Since no *Pseudomonas* had two or more plasmids, the multiple plasmid organism was new. Moreover, since no single *Pseudomonas* strain could degrade all components of petroleum, the new organism had a new function as well. Previously mixtures of different *Pseudomonas* organisms were tried on spills with less satisfactory results.

Chakrabarty assigned his application to General Electric (GE). Claim 7 reads:

... a bacterium from the genus *Pseudomonas* containing at least two stable energy-generating plasmids, each of said plasmids providing a separate hydrocarbon degradative pathway.

^{35 328} F.2d 996, 140 U.S.P.Q. 662 (CCPA 1964).

³⁶ 449 F.2d 1289, 182 U.S.P.Q. 303 (CCPA 1974). See H. Wegner, 5 IIC 285 (1974).

³⁷ Ex parte Bergy et al, 197 U.S.P.Q. 78-one judge dissented. The Chakrabarty decision was not published.

Chakrabarty's claims to the micro-organism combined with straw or other carrier and claims to a medium inoculated with the organism were allowed by the PTO.

Bergy et al invented a microbiological process for preparing the antibiotic lincomycin using a newly discovered micro-organism, Streptomyces vellosus, having the economic advantage of not concomitantly producing lincomycin B. Process claims (for making the antibiotic) were allowed by the PTO.

The Streptomyces had been deposited with the Agricultural Research Service (ARS) Culture Collection in Peoria, Illinois. Rejected Claim 5, drawn hereto, recited (in part):

A biologically pure culture of the micro-organism Streptomyces vellosus having the identifying characteristics of NRRL 8307.

The claimed organism was isolated from Arizona soil samples. The CCPA decisions provide no indication that the organism had been exposed to any conditions that would have altered the organism from its natural condition, other than being brought into a biologically pure culture. No genetic alteration is suggested.

Purity per se sometimes confers patentability to an isolated product of nature if a new, non-obvious function results from the purity. In Bergy the micro-organism in the soil, if inoculated into a fermenation medium, is so contaminated with competing organisms that it is very unlikely that the desired antibiotic would be produced in useful quantities.

Both sets of claims to the living organisms were rejected by examiners.

Subsequently, Bergy et al abandoned their claims to "all subject matter in controversy" and moved for their dismissal. The motion was granted. Some of the patent bar felt that Bergy's micro-organism, having existed in impure form in nature, was more vulnerable, and might weaken the GE case if joined to it.

Chakrabarty had the best possible facts. His micro-organism was clearly man-made (or at least man assembled, from naturally occurring parts) whereas Bergy's was dependent on the purity limitation to distinguish from nature. Chakrabarty's case was absolutely free of any "product of nature" issue. The petroleum degrading micro-organism was environmentally popular and useful, and had properties no other known micro-organism possessed.

The Arguments for Patentability

The CCPA had noted the incongruity of the PTO's having allowed combination claims to living matter and a "carrier" which would float

on water, while refusing to grant claims to the active element per se, which was the appellant's real contribution to the technological arts.

Chakrabarty urged that nothing in §101 precluded living matter. The CCPA cited Pasteur's patent on yeast "as an article of manufacture" and also various other patents claiming living subject matter of more recent vintage. Some had been incidentally listed in an article³⁸ urging patentability of bacteria under the PPA.

The Supreme Court had previously considered inventions involving living matter. In *Funk Brothers Seed Co.* v. *Kalo Inoculant Co.*, ³⁹ a mixture of root nodule bacterial strains was held not to be patentable because it was aggregation of previously old elements, each of which functioned naturally as it would have alone. The Court held the patent invalid for aggregation. It had not held that living subject matter was unpatentable *per se*.

In American Fruit Growers v. Brogdex, 40 oranges coated with a preservative were held to be unpatentable. The coated orange was not sufficiently modified from nature to be distinguishable from unmodified oranges, and was therefore an unpatentable product of nature. GE urged that the Government's policy had not been to deny patents for living things, but to deny patents to products of nature, whether they are living or not.

The Arguments against Patentability

The Government argued that enactment of the 1930 PPA, which afforded patent protection to certain asexually reproduced plants, and the 1970 PVPA, which authorized protection, "breeder's rights," for certain sexually reproduced plants (specifically excluding fungi and bacteria), is evidence of Congressional understanding that the terms "manufacture" and "composition of matter" do not include living things. If the terms did embrace living things, neither Act would have been necessary.

Judge Miller of the CCPA found at least a substantial doubt about Congress' intent to include living things within the scope of patentable subject matter in §101. In the absence of any clear and certain signal that they were to be included, the Court should not bring them within the bounds of §101 by unwarranted judicial construction. The Court should not extend patent protection into areas wholly unforeseen by Congress.

³⁸ D.G. Daus et al, 10 IDEA 87 (1966).

³⁹ 333 U.S. 127, 76 U.S.P.Q. 280 (1948).

⁴⁰ 283 U.S. 1, 8 U.S.P.Q. 131 (1930).

Congress, it was urged, rather than the judiciary, is empowered and is best able to resolve the complex questions involved and to tailor the statute to achieve precisely its desired ends. The determination of whether living organisms produced by "genetic engineering" are patentable, and under what conditions, is best left to Congress.

The CCPA in *Mancy*⁴¹ "presumed" that the applicants therein would have been unable to obtain an allowable claim for a novel strain of *Streptomyces* because the strain, while "new" in the sense that it is not shown by any reference, was a "product of nature." Like Bergy's, Mancy's culture involved a laboratory process of isolation and cultivation of the micro-organism in a defined nutrient medium. (The CCPA explained its *Mancy obiter dictum* in *Bergy* (II),⁴² finding Bergy's micro-organism not to be a product of nature, the CCPA having been previously unaware of the great labor required in a laboratory to obtain a biologically pure culture.)

The Reasoning of the Supreme Court

The Court accepted GE's arguments based on prior patents. The 1952 Act retained Thomas Jefferson's words, substituting "art" for "process." Legislative reports accompanying the 1952 Act indicate Congress intended statutory subject matter to "include anything under the sun that is made by man." However, that language does not include laws of nature, physical phenomena and abstract ideas.

The claimed micro-organism qualifies as patentable subject matter because it "is not an hitherto unknown natural phenomenon but a non-naturally occurring manufacture or composition of matter." The six species in Funk v. $Kalo^{43}$ were not new and were not used in any new way. The discovery before the Court is not nature's handiwork but Chakrabarty's own.

The Government's arguments based on the PPA and PVPA were rejected. The PPA was written to overcome two obstacles to plant patents: (1) they were natural products not subject to patent protection; and (2) plants were not amenable to the "written description" requirement of the patent law⁴⁴ because new plants may differ from old only in color or perfume; differentiation by written description was often impossible. In the legislative history, no committee or

⁴¹ See Note 36 at 306.

⁴² On rehearing, 596 F.2d 952, 201 U.S.P.Q. 352, 374 (CCPA 1979).

⁴³ See Note 39.

^{44 35} U.S.C. §112.

member of Congress had expressed the view that living things were excluded by "manufacture" or "composition." The sole support for the Government view came from a statement from Mr. Hyde, the Secretary of Agriculture, that only inanimate things were patentable. The Court found this was in "an area beyond his competence." Congress had not accepted the Secretary's statement, holding —

... a clear and logical distinction between the discovery of a new variety of plant and of certain inanimate things such as, for example, a new and useful natural mineral. The mineral is created wholly by nature unassisted by man... On the other hand, a plant discovery resulting from cultivation is unique, isolated, and is not repeated by nature, nor can it be reproduced by nature unaided by man.

Congress thus recognized that the relevant distinction was not between living and inanimate things, but between products of nature, whether living or not, and human made inventions. The passage of the PPA, for asexually reproduced plants, does not support the Government position.

The PVPA reflects technological advances in that many sexually reproduced plants could now be produced true to type and that "plant patent protection was therefore appropriate." The 1970 Act extended that protection. Nothing in its language or history suggests that it was enacted because \$101 did not include living things. The exclusion of bacteria may reflect Congressional agreement with Arzberger, or it may reflect recognition that the PTO had in fact issued patents for bacteria under \$101, citing Pasteur's yeast patent and some granted immediately prior to the passage of the PVPA.

The Government's argument that Congress must expressly authorize protection for micro-organisms was rejected. Congress passed §101; it is the duty of the judiciary to say what the law is. There is no ambiguity in §101. Flook⁴⁵ did not announce a principle that inventions in areas not contemplated by Congress are unpatentable per se.

The Supreme Court stated that the PPA exempted plants from the "product of nature" barrier of §101. A product of nature, previously existent, is not new.

In a five to four decision the Court rejected arguments that the PPA of 1930 and the 1970 PVPA implicitly excluded living matter from patent protection excepting under those Acts. The Court found nothing in either Act, or the 1952 Patent Act, supportive of legislative intent that living matter is to be excluded from patent protection merely because it is alive.

⁴⁵ Parker v Flook, 437 U.S. 584, 198 U.S.P.Q. 193 (1978).

Four justices joined in a dissent. Their view of the PPA (and the PVPA) is that if newly developed living organisms not naturally occurring had been patentable, \$101, the plants in the 1930 and 1970 legislation could have been patented without new legislation because those plants, like Chakrabarty's bacterium, were new varieties not naturally occurring.

The dissent urged that if the sole purpose of the PPA were to solve the technical problem of description, most of the Act, particularly its limitation to asexual reproduction, would have been totally unnecessary. The PVPA clearly indicated that Congress intended bacteria not to be within the scope of patent protection. The *Chakrabarty* decision extends patent protection to bacteria, in spite of Congress' intent. It is the role of Congress, not the Court, to legislate.

Metes and Bounds of Patentable Living Subject Matter

In response, the Commissioner of the PTO has issued a notice⁴⁶ interpreting the Supreme Court's decision as holding that "micro-organisms produced by genetic engineering are not excluded from patent protection by 35 U.S.C. §101... the question of whether or not an invention embraces living matter is irrelevant to the issue of patentability."

The PTO is now examining applications, including claims to micro-organisms, which had been under suspension.

Assuming the products involved were the result of human intervention and were not products of nature, such claims will not be rejected under 35 U.S.C. §101 as directed to unpatentable subject matter.

Contemporaneously, the PTO issued a revision to its MPEP; Section 2105 is entitled "Patentable Subject Matter — Micro-organisms." The Supreme Court's decision is extensively analyzed with respect to products of nature. It states that the Court did not limit its decision to genetically engineered living organisms. The PTO will decide questions on a case-by-case basis following the test set forth, that a "non-naturally occurring manufacture or composition of matter" is patentable, subject to §§102, 103 and 112 (particularly referring to the MPEP section setting forth conditions for the deposit of micro-organisms).

The Commissioner's notice does not treat non-microscopic organisms as falling within the *Chakrabarty* decision. MPEP's statement regarding a case-by-case approach may not contemplate expansion to higher organisms. Whether "man-made" or "human intervention"

^{46 997} OG 24.

embraces a biologically pure culture of an isolated natural micro-organism remains for the future. There would appear much less question of intervention regarding man induced mutations, for example from radiation or mutagenic chemicals.

Animals

Does artificial insemination of an animal constitute sufficient human intervention?

With respect to animals, there are not the complications of potential dual protection. Neither is there the reassurance of any accepted precedent. The patent system was mocked by the lay press' suggestion of patenting Frankenstein. The problems of complying with the description requirement of §112 are immense. §112, paragraphs 1 and 2 provide:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

As organisms more complex than bacteria are sought to be patented, the difficulties of description become almost insurmountable.

The German Federal Supreme Court, in the *Red Dove* case,⁴⁷ held that patentability was not excluded merely because the subject matter was of a biological nature. The German Court required that the preparative method be readily repeatable by others, and in the case of the specially bred dove, found that critical element to be lacking.⁴⁸

The CCPA was faced with claims to a specially bred chicken in *In re Merat et al.* ⁴⁹ One claim was to a heavy meat chicken prepared by a defined process. The product-by-process claim language did not particularly point out and distinctly claim the invention and was denied. The Court also noted that sources of chickens with the necessary gene were not disclosed. The CCPA did not get to and treat the Board of Appeal's holding that animals were not within §101 statutory subject matter.

⁴⁷ 1 IIC 136 (1970), 1969 decision.

⁴⁸ Art. 2(2) of the 1980 German Code now prohibits patents to animals and permits patents for micro-organisms. This did not appear in the 1968 German Code.

⁴⁹ 519 F.2d 1390, 186 U.S.P.Q. 471 (CCPA 1975).

The CCPA, in deciding the patentability of a purified microorganism⁵⁰, did indicate that it had not decided whether living things in general, or at most, whether any living things other than micro-organisms are within 35 U.S.C. §101. The PTO has used this distinction in *Bergy* to conclude that such higher life forms other than plants are not patentable subject matter under 35 U.S.C. §101, absent mandate from the Court.

The Statutory Construction Issue

In the absence of judicial guidance, the PTO has for the present adopted a practice based on the legal principle of statutory construction which holds that any subject matter protectable under the PPA or PVPA cannot be protected under the general patent law, 35 U.S.C. §101.

Under PPA and PVPA, Congress has specifically set forth how and under what conditions plant life covered by these acts should be protected. Since the plant provision was added to the predecessor of §101, it is clear that Congress intended a "distinct and new variety of plant" covered by the PPA to be something apart from the statutory categories of invention embraced by §101. The PVPA was enacted to provide protection for the breeders, developers and discoverers of novel varieties of sexually reproduced plants as opposed to the asexually reproduced plants covered by the PPA. Section 41(a) of Title 7 defines novel varieties to include "seeds, transplants and plants." Congress could have amended the PPA to remove the asexual reproduction limitation but chose to provide protection separately administered by the U.S. Department of Agriculture.

Where separate statutes dealing with the general (§101) and specific aspects (PPA, PVPA) of the same subject matter appear to conflict, the statute specific to the subject should not be controlled or nullified by the general one in the absence of specific Congressional intent.⁵¹ Unless a later statute is irreconcilable with an earlier one with the same subject matter, courts are loath to find repeal by implication of the earlier statute.⁵²

⁵⁰ In re Bergy, 195 U.S.P.Q. 344 (1977).

⁵¹ Bulova Watch Co. v U.S., 365 U.S. 753 (1961); Morton v Mancari, 417 U.S. 535 (1973).

⁵² U.S. v Greathouse, 166 U.S. 601, 605 (1896); Washington v Miller, 235 U.S. 422, 428 (1914).

Plant Life

Asexually reproduced plants (except Irish potatoes and Jerusalem artichokes) have, since 1930, been patentable under the PPA. Sexually reproduced plants, except fungi, bacteria and first generation hybrids are protected by the 1970 PVPA.

The two forms of legal rights are different. PPA provides protection against the unauthorized asexual reproduction of a patented plant or use or sale of such plants. As a chapter of the general patent laws, the general law applies except where specified otherwise. The PVPA provides patent-like protection against the unauthorized propagation of seed to be sold or used as propagating material.

PVPA has codified exceptions to infringement, (1) the right of the farmer to save seed and grow it for his own use, (2) to sell his crop as feed, food, etc. in good faith or (3) bona fide research reproduction.

The PPA does not require a deposit, the PVPA does. If the PVPA deposit is not replenished when no longer viable, protection ceases.

Reexamination is available under the PPA anytime during the patent term, but, under the PVPA, reexamination is available only during the first five years of the patent. The term of protection is 17 years under the PPA — 18 years under PVPA — unless a foreign applicant is from a country whose term is less; then the term is the lesser.⁵³

Prior art is different under the PPA and PVPA. The latter has a provision similar to 35 U.S.C. §102(d), but without a requirement that the application more than a year before have matured into a patent. Williams has extensively discussed the differences between the PPA, PVPA and general patent law.⁵⁴

The Chakrabarty court's discussion of 35 U.S.C. §101, the purposes and effects of the PPA and the PVPA, makes clear that plants are within that subject matter that can be patented under §101. That decision did not explain or define the jurisdictions over plants (whether sexually or asexually reproduced) of each of the three laws, although PVPA was considered a form of patent protection. Without question, plants that are not protectable under either PPA or PVPA, e.g., Irish potato, are patentable under §101, provided the requirements of §112 are met.

⁵³ See Note 27 at 929.

^{54 8} EIPR 222 (1981).

It is apparent that dual protection under §101 and the PVPA would violate Article 2 of the UPOV Act.⁵⁵ The PTO has adopted the rule of statutory construction discussed previously, to avoid such dual protection and to reflect Congress' policies with respect to plants.

The PPA and PVPA claims are limited to a single variety. Generic claims are not permitted.

Since generic claims or claims to parts of the plant are not available under PPA, the statutory construction position of the PTO has not been completely accepted.⁵⁶

A test case is before the PTO Board of Appeals and Interferences.

Other countries that have permitted claims to micro-organisms⁵⁷ have barred patentability of plants or animals under general patent statutes, e.g., UK,⁵⁸ European Patent Convention,⁵⁹ and Germany.⁶⁰ Crespi reports that since 1970, Japan has granted patents to plants under the general patent law and possibly still permits them since adoption of the 1978 "Seeds and Seedlings" Law.⁶¹ Methods of preparations, i.e., breeding, culturing or treating patentable (or unpatentable) life forms can be patentable under 35 U.S.C. §101. Byrne⁶² explains that UK excludes plants and animals from general patent protection because disclosure requirements could not ordinarily be met.

There are about 4,500 applications pending in the PTO in biotechnology; about 1,500 relate to genetic engineering or recombinant DNA. The basic Cohen and Boyer patents⁶³ have issued. Halluin has

J. Straus, 15 IIC 426 (1984) questions the need for such prohibition. Dual protection may create a double patenting problem, if patent protection is sought under both forms.

K. Krosin, 67 JPTOS 220 (1985); Neagley et al. Monograph, "\$101 Plant Patents-Panacea or Pitfall?," AIPLA Select Legal Papers, Vol. II, No. 2 (1983), noting several patents to plants have issued. 4,351,130 (hybrid rice); 4,377,921 (gymnosperm); 4,378,655 (sunflower). S. Williams, Note 54 had identified others; 3,861,079 (hybrid corn) and 4,143,486 (hybrid wheat).

⁵⁷ A list is provided by A. Huni et al., 21 Ind. Prop. 356,360-2 (1982).

⁵⁸ Art. 1(3)(b).

⁵⁹ Art. 53b. Teschemacher, 13 IIC 27, 33 (1982) interprets this as permitting claims to micro-organisms per se.

⁶⁰ Section 2(2).

⁶¹ R.S. Crespi, "Patenting in the Biological Sciences," New York, Wiley-Interscience, 1982 at 71.

^{62 16} IIC 1, 3 (1985).

^{63 4,339,538; 4,468,464} and 4,237,224.

282

discussed some concerns about them.⁶⁴ There has been a significant increase in the rate of filing⁶⁵ genetic engineering applications since the Supreme Court's decision. Clearly *Chakrabarty* is a correct decision favoring the progress of the useful arts.⁶⁶

Conclusions

The Supreme Court has held that genetically engineered micro-organisms are patentable and that §101 does not bar new micro-organisms (not higher organisms). The PTO has stated that new man-made micro-organisms that are not products of nature are considered patentable.

The greater the intervention (invention) by man, the greater the probability for patentability. "Product of nature" remains a threat to patentability of micro- (and higher) organisms. As the organisms become more complex, so also do problems of description and "how to make" the more complicated structures.

⁶⁴ Banbury Report 10, pp. 67-125 (1982).

⁶⁵ From 20 to 30 per year to 20 to 30 times that rate.

⁶⁶ A. Tanenholtz, 1984 ATCC Biotech. Pat. Conf. Wkbk. 37, 40, notes that while Chakrabarty provided great psychological stimulus, the patenting of recombinant DNA technology would probably not have been affected by an adverse decision.