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Featuring Selected Papers from the Winter Conference
November 29 and November 30, 1976 in Cambridge, Massachusetts

on

ARBITRATION OF PATENT AND OTHER TECHNOLOGICAL DISPUTES

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Notes on PTC Progress

Conferences

Two conferences under the PTC's direction, "Policy Alternatives to Invention and Innovation" and "Computerized Access to Secondary Legal Materials," were held in Concord during the latter part of March and early April.

Invention and Innovation. James O'Bryon, a graduate of the Massachusetts Institute of Technology, opened the conference with discussion of the comprehensive Inventor Profile,¹ including information on characteristics of the inventor, the invention and its commercial applications, employer/employee relationships, and most importantly, opinions by inventors on the United States patent system. Two students from the M.I.T.'s Department of Electrical Engineering, Urszula Frydman and Diane Zingale, then presented the British Inventor Profile,² with data tabulated from the same source of questions asked of the American inventor. Each of these papers will be incorporated into one unit for future publication.

Afternoon and evening sessions consisted of lectures and workshop discussion on the role of the U.S. Government in providing incentives to invention and innovation arising not only within the Government but also within private-sector corporations and universities.

Those persons presenting position papers included:

William O. Quesenberry, Departmental Patent Director, Office of Naval Research;

Jacob Rabinow, Institute for Applied Technology, National Bureau of Standards, Department of Commerce;

Jason Weisman, Energy Sciences, Inc., Boston, Massachusetts; and

Donald Moore, Director, Center for Industrial and Institutional Development, University of New Hampshire, Durham.

Secondary Legal Materials. A group of twenty-five librarians, legal editors, and lawyers participated in an intensive two-day workshop to discuss the feasibility of placing in a data bank abstracts derived from secondary legal materials. This conference grew out of a proposal put forth in IDEA (see Vol. 17, No. 1) that legal periodicals include abstracts, as do most scientific journals, and that each

¹ This project was undertaken cooperatively with the PTC and the Academy of Applied Science.

² The British Institute of Patentees and Inventors collaborated in the obtaining of this data which is expected to be published jointly by the British Institute and the PTC.

article be accompanied by key words on which it can be indexed. Such a system could facilitate computerized storage and retrieval, greatly improving and speeding legal research.

An ad hoc committee was formed, consisting of:

Carolyn Baldwin, Franklin Pierce Law Center;
L. Clark Hamilton, U.S. Copyright Office;
Margaret Leary, University of Michigan;
George Grossman, University of Minnesota;
Myron Jacobstein, Stanford University;
Betty Taylor, University of Florida; and
the PTC Research Foundation

which will present a report at the annual meeting of the American Association of Law Libraries the week of June 20 in Boston.

International Study and Research

Harry M. Saragovitz, PTC Washington Office Manager, and Robert H. Rines, Dean of the Law Center, recently visited the Center for International Studies of Industrial Property (Strasbourg, France) and the Max Planck Institute (Munich, West Germany) to discuss further an exchange program of research, faculty and students between the Law Center and the respective institutions (see, *IDEA*, Vol. 17, No. 2).

M. Francois Savignon, CEIPI, wrote the PTC in May of this year that academic programs in Strasbourg on patents and international law will be open to Law Center students beginning this fall.

Law Center Honorary Degree

Kenneth J. Germeshausen, past Chairman of the Board of Edgerton, Germeshausen and Grier, Inc. and presently an Advisory Council Member to the PTC, received the Franklin Pierce Law Center's first honorary degree at the May 8th commencement exercises.

Dr. Germeshausen was lauded for his achievements in radar, stroboscopy and atomic and nuclear devices. A citation read that his most spectacular invention was the hydrogen thyatron. Further, his innovative skills have brought about a new type of high technology company adapted to serving the needs of both the government and private sector. Dr. Germeshausen has encouraged technology entrepreneurship and has nurtured the climate for free enterprise in America.

Innovation Clinic

Prof. Thomas G. Field, Jr., announced at the conference on Policy Alternatives to Invention and Innovation the formal opening of the Innovation Clinic at the Law Center. According to Professor Field, "the Clinic was created to be of service to persons with ideas but little or no knowledge of the means for protecting them, plus performing legal services in industrial and intellectual property for governmental, corporate and private law firms."

"Under the direct supervision of a licensed attorney, and with the assistance of an advisory council of attorneys from various parts of the United States,³ students at the Law Center are prepared to help an individual with an original and useful idea of potential commercial value and evaluate the situation. At the most basic level of inquiry, an author or inventor will find that the Clinic maintains a file of governmental and other publications answering questions, for example, about the U.S. Patent System. Beyond this level of inquiry, the innovator will find the Clinic ready to advise, at any stage of innovation, on the type of legal counsel which will eventually be needed and whether circumstances would warrant incurring such an expense.

"In summary, the Clinic exists to be of service from the time of earliest conception of an idea, through attempts to evaluate and develop it, and to the point where it is appropriate to seek the aid of an attorney and begin commercial exploitation."

At the conference, Law Center students (Bruce Brunda, Paul Genovese, Rob Rines, David Pinsonneault and Glenn Stephenson) summarized cases and materials thus far made by inquiries to the Clinic.

³ Marvin H. Kleinberg (Kleinberg, Morganstern and Scholnick) Beverly Hills, California; Michael Nacey (Bolt, Baranek and Newman, Inc.) Cambridge, Massachusetts; Robert H. Rines (Franklin Pierce Law Center) Concord, New Hampshire; Harry M. Saragovitz (PTC Research Foundation) Washington, D.C.; Nelson H. Shapiro (Shapiro and Shapiro) Washington, D.C.; Robert Shaw (Massachusetts Institute of Technology) Cambridge, Massachusetts.

Commentary on the Law-Science Relationship in the Admissibility of Scientific Evidence

DOUGLAS JAMES WOOD*

Introduction

In 1895, Justice Oliver Wendell Holmes observed:

An ideal system of law should draw its postulates and legislative justifications from science. As it is now, we rely upon tradition, or vague sentiment, or the fact that we never thought of any other way of doing things, as our only warrant for rules which we enforce with as much confidence as if they embodied revealed wisdom.¹

Eighty-one years later, this continuing relationship between law and science, aptly described by one author as the "law science confrontation," has continued to cause major difficulties in many areas of legal theory.² The purpose of this article is to examine a particular area within an overall relationship where the problem has current force—the admissibility of scientific evidence.

* Mr. Wood is a graduate of the Franklin Pierce Law Center. This paper was prepared under the guidance of Prof. Thomas G. Field, Jr., of the Law Center.

¹ Holmes, *Learning and Science*, in COLLECTED LEGAL PAPERS 139 (1920).

² See, e.g., Cohen, "On the Literature of the Relations between Law and Science," Newsletter #12, Program on Public Conceptions of Science, at 31, Harvard University (1975); Cohen and Stepan, "Literature of the Law-Science Confrontation, 1965-1975," Newsletter #14, Program on Public Conceptions of Science, at 32-85, Harvard University (1976).

While a great volume of literature has addressed the admissibility of the results of individual scientific processes,³ none appears to address, generally, the admissibility of scientific evidence or attempt to develop common threads. More specifically, while numerous studies can be found discussing the respective admissibility of the results of, e.g., breathalizers,⁴ voiceprints,⁵ radar,⁶ or lie detectors,⁷ no literature seems to be available which discusses general rules. Equally importantly, none seems to indicate approaches that might be used to argue that a new scientific methodology⁸ ought to be admitted as competent evidence in a pending controversy.

With today's amazing growth in technology, the ad hoc approach heretofore used is becoming increasingly difficult and may soon be impossible. Therefore, this article will attempt to ascertain applicable criteria and techniques that can be used to secure the admissibility of any scientific evidence.

In addressing the topic, the main body of the article is divided into three main subheadings: 1) the admissibility of the methodology, 2) qualifying the scientist, and 3) the competency of expert testimony—notwithstanding that these issues are closely related to one another.

³ *Id.*, Newsletter #14, at 37-39; *see also* Norvell, "Reception of Science by the Legal System," *SCIENTISTS IN THE LEGAL SYSTEM* 26 (1974).

⁴ "Evolving Methods of Scientific Proof," 13 N.Y.L. Forum 679 (1968); Ahrens, "Scientific Evidence and the Law: Identification, Verification of Verbal Testimony and Physiological Proof," 13 N.Y.L. Forum 612 (1968); Boyce, "Judicial Recognition of Scientific Evidence in Criminal Cases," 8 Utah L. Rev. 313 (1963-64).

⁵ Greene, "Voiceprint Identification: the Case in Favor of Admissibility," 13 Amer. Crim. L. Rev. 171 (1975); Barnett, "Voiceprints: the End of the Yellow Brick Road," 8 U. San Francisco L. Rev. 702 (1974); Edwards, "The Status of Voiceprints as Admissible Evidence," 24 Syracuse L. Rev. 1261 (1973).

⁶ Glater, "Technology Spots the Speeder," 7 Urban Lawyer 115 (1975); "Radar and the Law," 19 South Texas L.J. 269 (1968); "Scientific Evidence in Traffic Cases," 59 J. Crim. L.C. & P.S. 57 (1968).

⁷ Belli and Streeter, "The Fourth Degree: The Lie Detector," 5 Vand. L. Rev. 549 (1952); Highleyman, "The Deceptive Certainty of the Lie Detector," 10 Hast. L.J. 47 (1958); Note, 20 So. Cal. L. Rev. 804 (1968).

⁸ **Scientific methodology** must be distinguished from the broader terms **science** and **art**, areas not directly covered by this article. A **science** may be defined as a branch of knowledge or study dealing with a body of facts within the general laws, e.g., medicine. Within the **science**, there are then **scientific principles** that are developed from this body of facts. From these principles, a scientist will develop a **scientific methodology**, e.g., voiceprints or neutron activation analysis. It is the narrower field of methodology that this article addresses. **Art**, while sometimes categorized as an area within **science**, is more often an acquired skill or learning, e.g., dousing for water or astrology. **Art**, not within the scope of this article, is generally inadmissible evidence for its lack of provable reliability and degree of speculation.

Logical vs. Legal Relevancy

In any determination of the admissibility of scientific evidence,⁹ the threshold issue is its relevancy, where the distinction between logical and legal relevancy becomes all important.¹⁰

While most evidence is admissible on a simple showing of logical relevancy, i.e., the fact offered tends to prove the truth of another fact at issue in a trial, scientific evidence will be admitted only upon the additional showing of legal relevancy.¹¹ The standard of logical relevancy is judged by ordinary logic or the general rules of reasoning,¹² whereas legal relevancy is governed by strict artificial rules of law.¹³ If this sounds confusing, it is no surprise. Respectable authorities have been in disagreement with the distinction for decades.¹⁴ A leading case in the area described legal relevancy as follows:

Although undoubtedly the relevancy of testimony is originally a matter of logic and common sense, still there are many instances in which the evidence of particular facts as bearing upon particular issues has been so often the subject of discussion in courts of law, and so often ruled upon, that the united logic of a great many judges and lawyers may be said to furnish evidence of the sense common to a great many individuals and, therefore, the best evidence of what may be properly called common sense, and thus to acquire the authority of law. It is for this reason that the subject of relevancy of testimony has become, to so great an extent, matters of precedent and authority, and that we may with entire propriety speak of its legal relevancy.¹⁵

In the realm of scientific evidence, legal relevancy is no more than an application of precedent; as case law tends to build up the "competency" of a scientific methodology, it becomes legally relevant and admissible (so long as otherwise logically relevant). Thayer maintains that such an approach has no legal foundation: "How are we to know what these forbidden things are (that are not

⁹ For a discussion of the application of this dual relevancy requirement as it pertains to circumstantial evidence, see Trautman, "Logical or Legal Relevancy—A Conflict in Theory," 5 Vand. L. Rev. 385 (1952).

¹⁰ See, e.g., J. Richardson, MODERN SCIENTIFIC EVIDENCE—CIVIL AND CRIMINAL §§ 6.13-6.18 (2d ed. 1974).

¹¹ *Id.* at § 6.14.

¹² Trautman, note 9 *supra*, at 387-92.

¹³ Black's Law Dictionary 1128 (revised 4th ed. 1968).

¹⁴ See generally, Thayer, PRELIMINARY TREATISE ON EVIDENCE 265 (1898); Wigmore, EVIDENCE § 12 (3d ed. 1940); McCORMICK ON EVIDENCE § 185 (2d ed. 1972).

¹⁵ State v. Lapage, 57 N.H. 245 (1906); See also Engel v. United Traction Co., 203 N.Y. 321, 96 N.E. 731 (1911).

logically probative)? Not by any rule of law. The law furnishes no test of relevancy. For this, it tacitly refers to logic and general experience"¹⁶

Still another critic of the dichotomy between logical and legal relevancy fears that dependence on legal precedent, while an easy answer to the problem, dispenses entirely "(1) with the relational test of relevancy itself, or (2) with the function of determining in each case whether or not there exists a disproportionate risk"¹⁷ of undue prejudice or confusion among the jurors, when weighed against countervailing policy considerations. While inroads into the double standard have been made in some areas involving the admissibility of scientific evidence, such is not the general case when offering the results of a scientific device, e.g., lie detectors or voiceprints.¹⁸ It is necessary, therefore, to examine the legal relevancy issue as it applies to scientific methodology and develop the particular case law in this area.

The Admissibility Of The Methodology

Historically, the leading case concerning the admissibility of scientific evidence is *Frye v. United States*,¹⁹ an early attempt to introduce the results of a systolic blood pressure deception test, the predecessor of our present day lie detector. In a brief decision, the court refused to permit the admission of the test results into evidence and announced the following rule concerning admissibility of scientific evidence:

Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to determine. Somewhere in this twilight zone, the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, *the thing from which the deduction is made must be sufficiently established to have general acceptance in the particular field in which it belongs.*²⁰ (emphasis added)

In reality, however, the test has serious shortcomings and is no more than a form of judicial notice subject to considerable criticism.²¹ Initially, establishing general acceptance for a scientific

¹⁶ Thayer, note 14 *supra*, at 265.

¹⁷ Trautman, note 9 *supra*, at 393.

¹⁸ See generally Richardson, note 10 *supra*.

¹⁹ 293 F. 1013 (1923).

²⁰ *Id.* at 1014; See also, WIGMORE, EVIDENCE § 990 (3d ed. 1940).

²¹ MCCORMICK ON EVIDENCE § 203 (2d ed. 1972); see also, FED. R. EVID. 703.

methodology is easier said than done and has become increasingly difficult. New scientific breakthroughs seem to occur almost daily. Progress hinges on innovation and those willing to try new approaches. Thus, while a new scientific test may be logically and scientifically sound, it may be so novel as not to have general acceptance. Admissibility then begins to turn more on the age of a methodology rather than its logical, scientific validity. Furthermore, defining the scientific community from which general acceptance must be established is particularly difficult. Is acceptance to be only from those scientists familiar with the process or from the entire scientific community?²² Because of the difficult application of this standard, some courts have modified the rule and hold that "disagreement alone does not make the opinion inadmissible. Where experts disagree, it is for the factfinder, whether that be jury or court, to determine which is more credible and therefore more acceptable."²³ Similarly, in a case involving the admissibility of voiceprint analysis, a Massachusetts court,²⁴ while narrowing the scientific community from which general acceptance must be shown, concluded that "the requirement of general acceptance is satisfied in our opinion, if the principle is generally accepted by those who would be expected to be familiar with its use."²⁵

In addition to the *Frye* requirement of general acceptance, case law has developed a further requirement of proof of reliability, supposedly a criterion distinct from general acceptance.²⁶ This added requirement can be more difficult to establish than general acceptance.

The vast majority of scientists are often in disagreement within a specified field, each finding faults with the experiments of another. Yet this constant questioning is necessary if research and development is to continue. Ignorance on the part of laymen, juries and judges alike, may confuse constructive disagreement for lack of reliability. If scientific advances are to retain their rightful respect and be accepted as probative evidence, confusion of this type must be avoided.

²² For a discussion of the selective application of the test and attempts to define the scientific community, see Boyce, note 4 *supra*; Strong, "Questions Affecting the Admissibility of Scientific Evidence," 1970 U. Ill. L.F. 1.

²³ Trimble v. Hedman, 291 Minn. 442, 192 N.W.2d 432 (1972).

²⁴ Commonwealth v. Lykus, 327 N.E.2d 671 (1975).

²⁵ *Id.* at 677.

²⁶ United States v. Brown, No. 34383-72 (1973), excerpts at 13 CRIM. L. RPTR. 2203 (1975).

These two criteria, acceptability and reliability, may therefore be described as the hallmarks of legal relevancy within the scientific field. The end effect of this dual requirement, however, is the ultimate exclusion of otherwise valuable evidence, often vital to the determination of an issue.²⁷ It is sometimes argued that this double standard rests on the assumption that the admission of scientific evidence (for example the results of a lie detector test) might unduly influence a jury and that in order to prevent this undue reliance on the evidence, a higher standard is necessary. This argument is fallacious for at least three reasons. First, it has long been a rule of evidence that a fact, despite its satisfaction of any standard of relevancy, may at the discretion of the trial judge be held inadmissible if it might tend to unduly prejudice or confuse the jury.²⁸ A standard of legal relevancy eliminates this discretionary approach and foolishly extends the prejudice argument like a blanket over scientific evidence. Juries are asked to consider and determine complex issues as a matter of course and are not nearly as naive as some would like to believe. Surely they can give the scientific methodology its proper weight.

Second, the value and reliability of the methodology are subject to both cross-examination and jury instruction concerning the probative effect to be given the evidence. When an advocate is responsibly performing his role, weaknesses in the methodology will be revealed to the jury during cross-examination. If he should fail in this responsibility, the jury is further protected by proper instructions from the trial judge, effectively diminishing any undue influence. While it can still be argued that judicial discretion, cross-examination, and jury instruction will not eliminate the dangers, it is submitted that these protections far outweigh the inefficiency resulting from the wholesale exclusion of otherwise probative evidence.

Finally, the fears of undue prejudice or influence do not always prove to be well founded. For example, in a statistical study of cases comparing the ratio of acquittals to convictions in which the results of voiceprint analysis were admitted against an accused, it was found that a lower percentage of guilty verdicts were returned in the "voiceprint" cases than were generally returned in any other criminal cases tried before juries.²⁹ In other words, the admission of the voiceprints had no substantial effect, negating any fears that they would unduly influence a jury.

²⁷ McCORMICK ON EVIDENCE § 203 (2d ed. 1972).

²⁸ *Id.* at § 185.

²⁹ Greene, note 5 *supra*, at 190.

A recent case has provided some further inroads into the dual requirements. In *United States v. Brown*,³⁰ a case involving the admissibility of voiceprint analysis, the court stated that it did not "believe that the test(s) of general acceptance and reliability are separate and distinct. It seems inescapable to the court that the cornerstones upon which the general acceptance of the scientific community of a new procedure as required by *Frye* must be based is reliability."³¹ One commentator has suggested that *Brown* represents "the most sensible accommodation between the *Frye* test and the obviously critical issue of reliability in suggesting that the degree of acceptance of the process (of voiceprint identification) within the scientific community has real meaning only in the context of whether the process is reliable. The two questions (acceptance and reliability) . . . should not be treated as separate issues under *Frye*."³² These inroads are only minor and despite their sound reasoning, the classic distinction has survived.³³ Therefore, general criteria must still be ascertained in hopes of establishing a broad approach to the acceptance and reliability standards.

Legal relevancy is most often based on circumstances, six in number, external to the lawsuit: legislative initiative, judicial acceptance, the degree of human interpretation, the use of the methodology outside the legal field, peer reaction, and public acceptance.

Legislative Initiative. This is most prevalent in cases involving the admissibility of the results of radar or breathalizers, where the scientific methodology finds its admissibility in statutory authority.³⁴ Generally, the underlying goal of a legislature is to effectuate administration of its laws, such as, e.g., insuring safety on its highways. While statutes might not provide that the results of a test are conclusive on an issue, they will often permit the admission of the results as prima facie evidence reflecting the guilt of an accused.³⁵

³⁰ *United States v. Brown*, note 26 *supra*.

³¹ *Id.* at 13 CRIM. L. RPTR. 2204.

³² Greene, note 5 *supra*, at 196.

³³ See, e.g., *United States v. Zeiger*, 350 F. Supp. 685 (1972); *People v. Law*, 39 Cal. App. 3d 663, 114 Cal. Rep. 708 (1974); *People v. Alston*, 79 Misc. 2d 1077, 362 N.Y.S.2d 356 (1974); see also MCCORMICK ON EVIDENCE §§ 202-211 (2d ed. 1972).

³⁴ Calif. Veh. Code §§ 13353-13354; Mass. Gen. Laws c. 90 § 24; New York Veh. & Traffic Law § 1192 (McKinney 1970).

³⁵ *Id.*; see also Notes, "Motor Vehicle Symposium," 35 Albany L. Rev. 431 (1971); Obrian, "Radar Speed Detection in Illinois: Truth or Consequences," 56 Ill. B.J. 56 (1967).

Judicial Acceptance. Unfortunately, this consideration is most often revealed by a tedious combing of precedent. An example of this evolutionary process is the development of the admissibility of voiceprint analysis, almost universally inadmissible in 1967³⁶ but now enjoying limited admissibility in most jurisdictions.³⁷ Such dignified status resulted only after intensive scientific experimentation and verification over the past nine years.³⁸ Despite these convincing scientific studies, voiceprint analysis has not yet gained general admissibility and is usually held admissible for the limited purpose of corroborating opinions as to identification by means of ear alone or for the purpose of impeachment.³⁹

There are occasions where an individual judge makes a decided effort to carefully evaluate the issues in an attempt to establish new directions. Unfortunately, his efforts too often go unrewarded by the appellate courts, when they reverse a decision permitting the evidence with little or no explanation. An excellent example of this problem occurred in *United States v. Zeiger*,⁴⁰ a decision in which the trial judge admitted the results of a lie detector test in a prosecution for assault with intent to kill. After carefully considering the evidence concerning both the acceptance and reliability of the process, Judge Parker concluded at the trial:

In the final analysis, the determination of whether the proffer of polygraph testimony can be presented so that its value to the truth-finding process overcomes the danger of over-emphasis by the jury resides within the sound discretion of the trial judge. The court should insure that the jury has been adequately prepared before it allows the examiner to state his conclusions. If these safeguards have been observed, the jury should be able to properly evaluate the polygraphic evidence.⁴¹

On appeal,⁴² the trial judge's ruling was reversed in a per curiam decision with absolutely no explanation nor citation to precedent. In an area so vital to the resolution of controversies, judicial guidance of this nature is unfortunate.

The Degree of Human Interpretation. As the need increases for human interpretation to evaluate the results or principles, admis-

³⁶ *State v. Cary*, 99 N.J. Super. 323, 239 A.2d 680, aff'd, 56 N.J. 16, 264 A.2d 209 (1970), re-affirming *State v. Cary*, 49 N.J. 343, 230 A.2d 384 (1967).

³⁷ See, e.g., *Alea v. State*, 265 S.2d 96 (1972); *United States v. Raymond*, 337 F. Supp. 641 (1972); *Commonwealth v. Lykus*, 327 N.E.2d 671 (1975).

³⁸ Greene, note 5 *supra*, at 173.

³⁹ *Trimble v. Hedman*, note 23 *supra*, at 456, 440.

⁴⁰ *United States v. Zeiger*, note 33 *supra*.

⁴¹ *Id.* at 691.

⁴² *United States v. Zeiger*, 475 F.2d 1280 (1972).

sibility tends to decrease. The lie detector has often fallen victim to his consideration, because it is subject to human error by the operator, both in administering the test and in interpreting the results.⁴³

Use of the Methodology outside the Legal Field. Radar is an example of this consideration, gaining much of its acceptance and respect from wide use by the military in WW II to determine not only speed, but also distance and altitude.⁴⁴ It is interesting to note that despite their wide use outside the legal field, lie detectors have yet to find any appreciable degree of acceptance in the courts.⁴⁵

Peer Reaction. This factor is particularly evident in the medical field. An example has been the traditional reluctance to admit the opinion of a chiropractor or osteopath, rather than a medical doctor.⁴⁶ Although it is now established that osteopathic testimony is valid in a malpractice action against a medical doctor,⁴⁷ such is not generally the case in the testimony of a chiropractor.⁴⁸ Unlike osteopathy, chiropractic has not obtained the recognition of the AMA, thereby undermining its weight and reliability and often assuring its inadmissibility.⁴⁹

It has been forcefully argued that peer criticism of a methodology should go only to the weight of the evidence and not its admissibility.⁵⁰ The protections afforded by competent cross-examination and judicial supervision are particularly appropriate to support this argument.

Public Acceptance. Often, public ignorance breeds a distrust for scientists and scientific methodology alike. For example, the public may fear that reliance on lie detectors will lead to something akin to George Orwell's *1984*. Also, while the public is apparently

⁴³ Note 7 *supra*.

⁴⁴ Boyce, note 4 *supra*, at 315-17.

⁴⁵ Levitt, "Scientific Evaluation of the Lie Detector," 40 Iowa L. Rev. 440 (1955); Blum and Osterloh, "Polygraph Examination of Police Informants," 59 J. Crim. L.C. & P.S. 133 (1968); Cureton, "A Consensus as to the Validity of Polygraph Procedures," 22 Tenn. L. Rev. 728 (1953); Burkey, "Privacy, Property and the Polygraph," 18 Labor L.J. 79 (1967).

⁴⁶ "Malpractice and the Healing Arts—Naturopathy, Osteopathy, Chiropractic," 9 Utah L. Rev. 705 (1965).

⁴⁷ Note, "Evidence—Qualification of Experts in Medical Malpractice Suits," 5 Wayne L. Rev. 267 (1959).

⁴⁸ Note 46 *supra*. Testimony of a chiropractor is generally admissible, however, in a personal injury action, *see* Harold Lowman v. Kuecker, 246 Iowa 1227, 71 N.W.2d 586 (1955) and the extensive annotation on the case at 52 ALR2d 1380 (1955).

⁴⁹ Note 47 *supra*, at 268.

⁵⁰ Greene, note 5 *supra*, at 194.

willing to accept the results of radar as evidence sufficient to convict an individual of speeding, they may be far more reluctant to accept the conviction of a person for murder, based only on a voiceprint analysis of a telephone threat. Judges are surely influenced by this public reaction, especially those who are elected to office. This influence, however, is contrary to a basic premise of our jury system. If the public is reluctant to accept the results of a test, a jury, when placed in the position of making the actual decision, may become all that more reluctant to place undue reliance on the results.⁵¹ It then follows that the judge should divorce himself from public influence and leave the matter within the province of the jury, where public conscience was intended to reside.

Other than these six considerations, another more general approach would be the utilization of the scientific method⁵² to provide an orderly presentation in proving the reliability of a scientific methodology. While it is not meant to infer that a direct application of the scientific method is necessarily possible in all circumstances,⁵³ its underlying foundations are clearly applicable. It should be further noted that this approach applies throughout the issues addressed in this article, and may, in fact, be applicable to problems in other related and unrelated legal fields. In attempting to qualify a methodology as reliable and inferentially acceptable, the following approach, can be utilized with underlying considerations of the scientific method.

⁵¹ This protection is apparent, e.g., in the discussion of the results of the voiceprint study, note 29 *supra*.

⁵² Defining the **scientific method** is difficult, with each scientist seeming to have his own definition. However, the following appears to be a good compilation of the various definitions [from L. Lloyd, *TECHNIQUES FOR EFFICIENT RESEARCH* (1966), at 25-57]: 1) state the objective; 2) assemble the facts; 3) organize the facts; 4) propose likely solution; 5) test the solution; 6) sell results—take action. These six steps are then subdivided into seven further steps: 1) scientific field involved; 2) known variables; 3) type of data required; 4) known methods to solve the problem; 5) opposite effects; 6) costs; and 7) relationships between the variables. The five considerations contained in this article are an attempt to develop the underlying considerations of the various steps of the **scientific method**. For additional discussions of the **scientific method** itself, see generally, Kemey, *A PHILOSOPHER LOOKS AT SCIENCE* (1959); T. Kuhn, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* (1962); K. Popper, *THE LOGIC OF SCIENTIFIC DISCOVERY* (1959).

⁵³ See Loevinger, "Jurimetrics: Science in Law," *SCIENTISTS IN THE LEGAL SYSTEM* 10 (1974), where the author states, "[I]t is clear that the legal and scientific methods of inquiry are, despite . . . similarities, quite different . . . The scientific method is clearly a different and distinguishable approach to data gathering. . . ."

Definition of terms. A judge will never understand an issue if he can't comprehend the rudimentary definitions. It is to be remembered that the trial judge is the sole arbiter of the admissibility of the methodology and only on a showing of clear abuse of his discretion will he be reversed on appeal.⁵⁴ Furthermore, the necessity for concise definitions at the outset becomes all that more important if the jury is permitted to hear any testimony from the expert.

General Conclusions. At this point, only the methodology and not the testimony of the expert is at issue. If one becomes too specific, the resulting confusion may defeat the attempt to persuade the court. Leave to the opponent the task of revealing any minute discrepancies on cross-examination.⁵⁵ For example, detailing all the criticisms of the accuracy of the results of a lie detector during direct examination may cloud the real issues surrounding general acceptance and reliability. Clearly, considerable pre-trial preparation may be required to prevent the opponent from revealing damaging irregularities.⁵⁶ The time factor involved in this preparation can be substantially reduced by intelligent communications between the advocate and the expert.⁵⁷ A failure to properly communicate and prepare can have catastrophic effects on the outcome of the litigation.⁵⁸

Principles and Conclusions. This can be shown by testimony discussing the control factors used in the experimentation. A controlled approach may be described as "the variation of one or a few

⁵⁴ See, e.g., *Varnarsdol v. Farlow*, 200 Iowa 495, 203 N.W. 794 (1925); *State v. Brewer*, 200 N.C. 187, 162 S.E. 363 (1932); Ladd, "Expert Testimony," 5 Vand. L. Rev. 414 (1952).

⁵⁵ "The cross-examination of a skilled or expert witness, if undertaken, should be directed to (a) showing a lack of qualification, (b) a motivating interest, (c) error in the observed or assumed facts, (d) error in conclusions or opinions, (e) specific impeachment, i.e., previous contradictory or inconsistent statements or writings, or lack of general credibility. Unless a cross-examination can be effectively directed to one of these objectives, it should not be undertaken." Busch, *LAW AND TACTICS IN JURY TRIALS* 635 (1949).

⁵⁶ See, e.g., Klein, "Making the Most of Your Expert," 46 Conn B.J. 483 (1972).

⁵⁷ For an excellent discussion of some of the "do's and don'ts" in preparing and working with an expert, see Kirk, "The Interrelationship of Law and Science," 13 Buff. L. Rev. 393 (1964).

⁵⁸ See *Cataldo v. Brunswick Corp.*, No. 4305 65 CIV 765 (1975), excerpts in 174—no. 56 N.Y.L.J. 1 (1975), where a jury verdict of \$750,000 was vacated and a new trial ordered because the expert's testimony was "replete with error, misassumptions of underlying fact, corrections, erroneous explanations, inconsistent positions and blatant flaws of recollection, if not worse, going to the general credibility as to make the verdict in this case, based on his testimony, in my opinion, a miscarriage of justice." Owen, J.

elements in a series of phenomena while observing the concomitant variation of other elements."⁵⁹ The point is that extreme care must be exercised to insure that the relationship between the hypothesis and conclusion is supportable.⁶⁰

Repetition. An isolated success is worthless. Consistency in subsequent testing is vital. Identical results using the same procedure is one method of showing repetition. It can be further buttressed, and indeed must be in areas involving the admissibility of scientific evidence, by showing identical results using new subjects.

Confirmation. This can be established by either of two approaches. First, it can be shown that other scientists in the field accomplished identical results by using the same procedure. This approach establishes the acceptance and reliability of the methodology. Second, identical results from other independent procedures may be shown to prove confirmation, thereby establishing the accuracy of the conclusions.⁶¹

It is hoped that, given an educated judge and an opponent who fails to shatter the disputed scientific methodology on voir dire, the evidence will be admitted. However, this is only the first hurdle facing the advocate, since the scientist, who is to testify concerning the facts at issue in the particular case, must himself be qualified as an expert within the general scientific field and the specific methodology.

⁵⁹ Loevinger, note 53 *supra*, at 11.

⁶⁰ To illustrate the dangers involved, an anecdote, related by Prof. Thomas G. Field, Jr., Franklin Pierce Law Center, is appropriate. A group of psychologists painstakingly trained rats to run through a maze and to turn in one direction at the cue of a click and in the opposite direction at the absence of a click. After the rats were fully trained, the psychologists injected them with a drug. When placed back into the maze, the rats "forgot" to respond to the clicks. After a rest period, when the rats were placed back into the maze, they "remembered" to once again respond to the clicks and turn in the proper direction. The psychologists asserted in their report that they had discovered a way to pharmacologically induce temporary amnesia. They were not the least bit pleased when some astute colleague pointed out that they had in fact only succeeded to pharmacologically induce a temporary hearing loss. So much for their hypothesis and conclusions. What the scientists failed to do was take into account all the possible variables. In a more pertinent setting, this difficulty in proving a controlled situation is a major obstacle faced by those advocating the admissibility of the results of lie detector tests.

⁶¹ For example, showing identical results through titration and gas chromatography. Both of these techniques ascertain the constituent parts of a liquid, the latter by preferential adsorption by a solid and the former by measuring the volume of a liquid reagent of known strength necessary to convert the constituent into another form.

Qualifying The Scientist

The qualification of an individual expert is evaluated at two points: as a preliminary matter by the trial judge and again by the jury if the judge should rule that the expert has an adequate background.⁶² There is considerable literature devoted to sample examinations of witnesses to establish their expertise in a particular field and some concerned with the nature of the general considerations involved in the qualification process.⁶³ None, however, outlines the approaches common throughout all the cases and are therefore not universally applicable. These general considerations fall into two levels, qualifying the expert in the general field and qualifying him in the particular methodology involved, including 1) profession, 2) education, 3) licenses and certifications, 4) employment history, 5) publications, inventions, patents, etc., 6) professional affiliations, 7) awards, and 8) expertise with specific methodologies.⁶⁴

As a final note, it has been observed that counsel should not stipulate to his expert's qualifications;⁶⁵ unless the jury is afforded the opportunity of hearing his qualifications, they will have little criteria to evaluate the weight to be given to the testimony. This factor can not be over emphasized. With litigation today very often becoming a "battle of the experts," respective qualifications will have considerable impact on both the judge and jury.⁶⁶

Now that the methodology and the scientist have been qualified, the remaining consideration is the admissibility of the specific questions and their respective answers.

⁶² McCORMICK ON EVIDENCE § 13 (2d ed. 1972).

⁶³ For specific questions, *see* 2 Goldstein, TRIAL TECHNIQUE §§ 14.01-14.27 (2d ed. 1969); Morrill, TRIAL DIPLOMACY §§ 8.1-8.7 (1973). For a limited list of generalities, *see* Busch, note 55 *supra*, at § 472.

⁶⁴ Busch, note 55 *supra*, at § 472, f.n. 8.

⁶⁵ R. Keeton, TRIAL TACTICS AND METHODS § 2.22 (2d ed. 1973).

⁶⁶ Displeasure with "[t]he practice of shopping for experts, the venality of some experts, and the reluctance of many reputable experts to involve themselves in litigation . . . (FED. R. EVID. 706, Advisory Committee's Note)" has prompted some jurisdictions to adopt a policy permitting court appointed experts. While the arguments in favor of such a procedure are convincing, it would nonetheless appear that a new and novel scientific methodology may find difficulty gaining court approval since it is safe to assume that a court will be inclined to appoint only those experts with long experience in a particular field or a long established methodology. In any event, the qualification process applies to court appointed experts as well, *see, e.g.,* FED. R. EVID. 702.

The Competency Of Expert Testimony

In addition to the basic rules of evidence, various judicial and statutory limitations have been placed on the proper scope of examination of an expert witness.⁶⁷ While a detailed analysis is not intended here, the limitations generally fall within four categories:

Facts within the ordinary intelligence and practical experience of a layman. "Stated in the negative, expert testimony is not admissible to prove or disprove matters within common knowledge as to which facts may be so described that the triers of fact may form a reasonable opinion themselves."⁶⁸ For example, an expert might not be permitted to express an opinion as to how many men would be required to erect a telephone pole safely⁶⁹ or whether a bullet wound was self inflicted.⁷⁰

Opinion as to the ultimate issue. Generally, an expert, or any witness for that matter, may not testify by opinion concerning the very issue before the jury or fact finder.⁷¹ The impropriety of asking a witness his opinion of the guilt or innocence of an accused in a criminal prosecution is a classic example of an invasion of the province of the jury through testimony on an ultimate issue—guilt or innocence. This is a complex limitation to apply and is the subject of considerable reinterpretation and criticism.⁷² It is still a major factor preventing the admissibility of the results of a lie detector test, as it was a principle argument against the admission of the results of voiceprint analysis.⁷³

Modern evidentiary codes have abolished this limitation and leave the issue to the sound discretion of the trial judge.⁷⁴

Inadequate foundation in the facts (bases). Historically, unless the

⁶⁷ McGuire and Haehsy, "Requisite Proof of Basis for Expert Opinion," 5 Vand. L. Rev. 432 (1952); Voorhis, "Expert Opinion Evidence," 13 N.Y.L. Forum 651 (1968); MCCORMICK ON EVIDENCE §§ 14-18 (2d ed. 1972).

⁶⁸ Ladd, note 54 *supra*, at 419.

⁶⁹ Hall v. New York Tel. Co., 168 App. Div. 396, 153 N.Y.S. 22 (1915).

⁷⁰ People v. Creasy, 236 N.Y. 205, 140 N.E. 563 (1923).

⁷¹ Healy v. Nordhous, 40 Ill. App. 2d 320, 188 N.E.2d 227 (1963); Voorhis, note 67 *supra*, at 652-54.

⁷² Wigmore, EVIDENCE § 1921 (3d ed. 1940); MCCORMICK ON EVIDENCE § 12 (2d ed. 1972).

⁷³ MCCORMICK ON EVIDENCE § 207 (2d ed. 1972); *see also* Greene, note 5 *supra*.

⁷⁴ "The basis usually assigned for the rule to prevent the witness from usurping the province of the jury is aptly described as empty rhetoric," FED. R. EVID. 704, Advisory Committee's Note. *See also* UNIFORM RULES OF EVIDENCE 58. For a general discussion of the Federal Rules of Evidence and the expert witness, *see* McElhaney, "Expert Witness and the Federal Rules," 2 Litigation 34 (1975).

expert had first hand knowledge of the specific facts behind the controversy being litigated, long hypothetical questions reciting these underlying facts were required to establish a foundation (bases) to support the expert's opinion.⁷⁵ While many states still follow this rule, modern evidentiary codes have abandoned this approach and now require only that an inquiry be made of the witness as to familiarity with the facts behind the case.⁷⁶ It is then up to opposing counsel on cross-examination to challenge the witnesses' foundation. This approach allows counsel to establish only those facts particularly vital to his expert's opinion, thereby saving time and lessening confusion among the jurors.

Where the expert's knowledge or opinion is based on facts that, if offered independently, would be inadmissible. This limitation presents a difficult hearsay problem, and while not a major obstacle in most circumstances, still deserves comment. Briefly, if an expert gained his expertise from sources that constitutes hearsay, or bases his opinion on such information, any opinion developed in that manner will be inadmissible.⁷⁷ For example, application of this limitation would prevent a doctor from giving testimony based on the diagnosis of another doctor, since the witness would be basing his testimony on hearsay.⁷⁸ While this limitation is still applied in some situations, most states permit this type of testimony so long as it is a type reasonably relied upon in the field or derived from a simple mechanical type of hearsay.⁷⁹ It is worthy to note that the Federal Rules of Evidence has abolished this limitation and leave to the cross-examiner the task of discrediting the witness.⁸⁰

Summary And Conclusion

Perhaps the lack of foundation for a distinction between logical and legal relevancy and the added requirement for the admissibility of scientific evidence can be illustrated by an analysis of a case involving the expert testimony of a social scientist.

In a law review article concerning an unreported child custody case tried in 1954, a social scientist discussed his vital role in that

⁷⁵ MCCORMICK ON EVIDENCE § 14 (2d ed. 1972).

⁷⁶ FED. R. EVID. 705.

⁷⁷ Hollies, "Hearsay as the Basis of Opinion Evidence," 10 CRIM. L.Q. 288 (1968); Comment, "Expert Witness: Hearsay vs. Opinion," 24 Baylor L. Rev. 108 (1972).

⁷⁸ McElhaney, note 74 *supra*, at 34-35.

⁷⁹ *Id.* at 36.

⁸⁰ FED. R. EVID. 703.

controversy.⁸¹ Briefly, a child of a mixed marriage was living with his father, aged sixty and recently divorced. The Minneapolis Welfare Department sought custody of the child because the father was black and lived in a black neighborhood and the child was white. The Department argued that the child was subject to harmful discrimination by his peers and for his best interests should be removed from that environment. The social scientist was called to testify on behalf of the father who ultimately was awarded the custody of the child. After being qualified, he testified, in part, to the following: 1) The historical discrimination against blacks in Minneapolis was rapidly declining and at the present rate could be expected to be inconsequential in a few years; 2) under the 1950 Census, and trends indicated from it, black neighborhoods were on the decline and only a small minority of these neighborhoods currently existed; 3) a number of "persons identified socially as negroes were not distinguishable in physical appearance from whites; there had been such persons in negro communities for generations, and negroes generally accorded high status to such persons."⁸²

In retrospect, it would be all too easy to comment on the reliability or accuracy of these predictions and observations. However, that is not the point of the example, nor is any comment meant to be critical of the result reached in the case. On the basis of logical relevancy, all the testimony cited was properly admitted to show factors that ought to be considered in determining the best interests of the child and the extent of possibly harmful discrimination. Yet neither the testimony nor the expert would have likely stood up to a test of legal relevancy, since the testimony's reliability is surely questionable, let alone generally acceptable to those within the community.

The fact is that the testimony of social scientists, from pollsters⁸³ to sociologists,⁸⁴ has long been properly admitted as logically relevant, even though its reliability is very often founded more in

⁸¹ Rose, "The Social Scientist as an Expert Witness," 40 Minn. L. Rev. 205 (1956).

⁸² *Id.* at 210.

⁸³ United States v. 88 Cases . . . Bierley's Orange Beverage, 187 F.2d 967 (3d Cir. 1951); Kennedy, "Sampling by the Food and Drug Administration," 6 Food-Drug-Cosmetic L.J. 759 (1951); Sylvester, "Consumer Polls as Evidence in Unfair Trade Cases," 20 Geo. Wash. L. Rev. 211 (1951).

⁸⁴ Clark, "The Social Scientist as an Expert Witness in Civil Rights Litigation," 1 Social Problems 5 (1953); Korn, "Law, Fact and Science in the Courts," 66 Colum. L. Rev. 1080 (1966).

speculation than logical, scientific evaluation. It seems preposterous to continue believing that some scientific marvels are either beyond the comprehension of a jury or would unduly influence their decisions, thereby necessitating a higher standard of admissibility. As true as it may be that explaining neutron activation analysis⁸⁵ is far more complex than explaining whiplash, their respective explanations are both nonetheless within the advocate's professional responsibility.

Using a logical approach to establish legal principles in the admissibility of scientific evidence must, to some persons, seem a contradiction in terms. It will apparently remain so until the courts see fit to reject the double standard and permit the system's own inherent protections to prevent prejudice or undue influence. The Federal Rules of Evidence may very well be a major step in this direction.

⁸⁵ For a detailed explanation, *see* *United States v. Stiffel*, 433 F.2d 431 (6th Cir. 1970) and Karjala, "Evidentiary Uses of Neutron Activation Analysis," 59 Cal. L. Rev. 997 (1971).

Patent Problem for Chemical Researchers— The Utility Requirement After *Brenner v. Manson*

IVER COOPER*

One may recall the story of Faraday, who while demonstrating his electrical apparatus before the British Parliament, was scornfully questioned by one of the Lords, "But of what possible use are these toys of yours?" Faraday quickwittedly retorted, "Of what use is a new born child?" As simple as this story may seem, The Supreme Court has apparently failed to see its wisdom in *Brenner v. Manson*,¹ the subject of this article.

35 U.S.C. § 101 provides:

Whoever invents and 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 the conditions and requirements of this title.

35 U.S.C. § 112 provides:

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

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¹ 383 U.S. 519 (1965). [Harlan and Douglas, J.J., dissenting].

connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The difficulty in defining to whom and for what purpose the term "useful" should be applied in new chemical compounds for which no known practical use has yet been developed, presented itself in *Brenner*. To somewhat paraphrase the words of Justice Story, should the practical use of an invention be one as applied to some beneficial use in society, in contradistinction to an invention which is injurious to moral, health, or good order?² In particular, would proof that the invention were useful in research be adequate under the Patent Statute?

For over a hundred and fifty years, the yardstick posited by Justice Story was the one against which inventions were measured. In the electrical and mechanical arts, there was little disagreement with the utility requirement Justice Story put forth, since electrical and mechanical inventions were typically designed with some use in mind. When, however, a chemist synthesized a new chemical compound, he did not necessarily contemplate any practical use for it. The same standard, however, was applied to all three of these areas of invention. Finally, beginning around 1950, the Patent Office consistently approved applications that claimed merely a research utility for the product or process in question. Unfortunately, the Court of Customs and Patent Appeals repeatedly overturned these decisions of the examiners, though not without dissent within the judiciary.

Brenner v. Manson

The facts in *Brenner* are not of themselves complicated. The dispute arose when two inventors claimed precisely the same invention in a process yielding a steroid, then the subject of cancer research. Following established Patent Office procedure, the examiner declined to investigate possible interference or priority claims, but proceeded to determine whether the invention claimed was allowable. His conclusion was that it was not since it lacked utility. The CCPA reversed and the Supreme Court granted certiorari to resolve the conflict.

On the appeal, the Court raised two questions it considered important: "is a chemical process 'useful' within the meaning of § 101 either (1) because it works—i.e., produces the intended product? or (2) because the compound yielded belongs to a class of

² Lowell v. Lewis, 15 Fed. Cas. 1018 (1817).

compounds now the subject of serious scientific investigation?"³ The Court went on to answer both questions in the negative.

The philosophical underpinning for the holding was the Court's expressed belief that, "[T]he basic *quid pro quo* contemplated by the Constitution and Congress for granting a patent monopoly is the benefit derived by the public from an invention with substantial utility. Unless and until a process is refined and developed to this point—where specific benefit exists in currently available form—there is insufficient justification for permitting an applicant to engross what may prove to be a broad field."⁴

The Court further added, in apparent dictum, that "[T]hese arguments for and against the patentability of a process which either has no known use or is useful only in the sense that it may be an object of scientific research would apply equally to the patenting of the product produced by the process."⁵

This approach, as set forth in *Brenner*, was later elaborated upon by the CCPA in *Application of Kirk*,⁶ where patent protection was claimed for certain new steroid compounds of value "as intermediates in the preparation of biologically active compounds and in some cases on account of their biological properties."⁷ In a 3-2 decision, the CCPA held, "if a process for producing a product of only conjectural use is not itself 'useful' within § 101, it cannot be said that the starting materials for such a process, i.e., the presently claimed intermediates—are 'useful.'"⁸

In a subsequent case, *Application of Joly*,⁹ the CCPA decided that a patent application relating to *Esters of 2-enols of Steroids, and Preparation Thereof* had been properly rejected for insufficient disclosure of utility. "A useless product does not become useful by conversion into another useless product."¹⁰ Judges Rich and Smith vigorously dissented from the decisions in both *Kirk* and *Joly* for reasons which will be treated in forthcoming sections of this article.

Several subsequent cases have vindicated patents challenged for want of utility, but without directly challenging the three leading cases already discussed. The present battleground is that of proof of utility.

³ See, note 1, *supra*, at 532.

⁴ *Id.* at 534.

⁵ *Id.* at 535.

⁶ 376 F.2d 936 (1967).

⁷ *Id.* at 941.

⁸ *Id.* at 945.

⁹ 376 F.2d 906 (1967).

¹⁰ *Id.* at 907.

The court in *Application of Eynde*,¹¹ after pondering the allegation that the claimed fluoroalkyl hydrazines were "important starting materials for the synthesis of certain color couplers used in photographing films,"¹² ruled that as "color couplers are, in general, unquestionably well known materials, . . . utility for color couplers need not be separately established."¹³ In *Carter-Wallace v. Riverton Laboratories*,¹⁴ the discoverer of MEPROBAMATE (an anticonvulsant), by demonstrating its utility through tests on experimental animals, was permitted his application; while in *Application of Moore*,¹⁵ the court, overruling the Patent Office Board of Appeals, held that the utility of "PFDC" (a dimer of the previously known and used "PFC") was not obvious and the application was therefore, valid.¹⁶ In *Ritter v. Rohm & Haas*,¹⁷ the court accepted what might be termed an implicit demonstration of utility. A patent claim describing a process for producing certain intermediates, which, in the presence of water, react to form N-mono-substituted amides was allowed on proof that the inventor's notebook showed that N-octyl acetamide (derived from his imino intermediate) might be a substitute for camphor in the plasticizing of cellulose.

To prevent the impression that all the recent cases have been decided in the patentee's favor, reference is made to *TVA v. Monsanto*¹⁸ where, like *Brenner*, the action arose out of a potential interference between inventors claiming similar processes; to *Anderson v. Natta*,¹⁹ where the discoverer of a polymerization catalyst was denied a patent since he failed to adequately disclose how the resulting polymer might be useful in photographic film; and to *Application of Buting*²⁰ where a new use claim to bis-sulfones (cancer treatment) was rejected as overly broad when described as a "method of treating seven types of cancer with several compounds" when successful treatment was shown on only two human subjects.

¹¹ 480 F.2d 1364 (1973).

¹² *Id.* at 1366.

¹³ *Id.* at 1371.

¹⁴ 433 F.2d 1037 (1970).

¹⁵ 444 F.2d 572 (1971).

¹⁶ The Board assumed that, as the substituent groups were the same, the chemical properties must be the same. Unfortunately the whole is not necessarily the sum of the parts. The intermolecular forces present in dimers do affect reactivity, *e.g.*, boron hydrides.

¹⁷ 271 F. Supp. 313 (1967).

¹⁸ 383 F.2d 973 (1967).

¹⁹ *See*, note 11 *supra*.

²⁰ 418 F.2d 540 (1969).

Canadian courts, in interpreting their somewhat similar patent statute, have likewise held that chemical compounds are not patentable per se. As to how much utility is required, *Prentice v. Dominion Rubber* is illustrative:

A definite amount of utility is not required by law to sustain an invention; a slight amount of utility is sufficient. Commercial utility is the very essence of a patent; a favorable reception by the purchasing public affords strong evidence of that degree of utility required by law.²¹

Moore is especially noteworthy where the court distinguished *Brenner* by drawing attention to the special character of the latter case and felt that the utility standard in a reference disclosure case ought not be as high as in an interference proceeding.²²

Two further cases illustrate the problems foreign patents have encountered in trying to cope with the *Brenner* requirement. In *Application of Hafner*,²³ a German patentee was denied a U.S. patent where the application failed to contain a disclosure of utility—such disclosure was unnecessary in Germany.²⁴ *Yasuko Kawai v. Matlesics*²⁵ raised the question whether compliance with § 112 would render the invention unpatentable in Japan. In a clear statement of the CCPA's post-*Brenner* interpretation of the utility requirement, the court stated in *Yasuko Kawai*:

We think it now settled that an invention cannot be considered as having been reduced to practice in the sense that a patent can be granted for it unless a practical utility has been discovered where such utility would not be obvious.²⁶

The driving force behind *Brenner* was the fear that "a patent may confer power to block off whole areas of scientific development, without compensating benefit to the public," if the invention does not have a known use. The basis for this fear was the Court's belief that, "To the extent that the patentee has power to enforce his

²¹ Ex. C.R. 196 (1928). See also, *Hoechst Pharmaceuticals of Canada, Ltd. v. Gilbert and Co.*, 32 Fox Pat. C 56, 50 CPR 26, s. C.R. 189 (1966); *Jules R. Gilbert Ltd. v. Sandoz Patents Ltd.*, 64 CPR 14 (1970).

²² 35 U.S.C. § 102: "A person shall be entitled to a patent unless . . . (a) the invention was . . . patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for the patent, or (b) the invention was patented or described in a printed publication in this or a foreign country . . . more than one year prior to the date of the application for patent in the United States".

²³ 410 F.2d 1403 (1969).

²⁴ *Id.* at 1405.

²⁵ 480 F.2d 880 (1973).

²⁶ *Id.* at 886.

patent, there is little incentive for others to undertake a search for uses."²⁷

In answer, it is believed that an experimental use is not an infringing use;²⁸ however, some persons may undoubtedly be discouraged from conducting experimentation, since any attempt to profit from the research would be threatened by a patent infringement action. It has been said that, "many is the good process which has been invented under duress—the pressure to find a way around an existing patent"²⁹—but this is merely to say that occasionally a "blockage" may be sidestepped.

The "Achilles' heel" in the Court's reasoning lies in its failure to address the possibility of cross-licensing. A new use for an old chemical compound is patentable,³⁰ and the discoverer of the new use may license the patent in return for like permission to make and use the product. Such cross-licensing is common in the chemical industry and nullifies the adverse effect of a broad composition-of-matter patent.³¹

The court in *Brenner*, rejecting the contention that inability to patent a process would discourage disclosure and lead to greater secrecy than might otherwise be the case, stated, "in the light of the highly developed art of drafting patent claims so they disclose as little information as possible—while broadening the scope of the claim as much as possible—the argument based on the virtue of disclosure must be warily evaluated."³² This, however, is a *non sequitur* since "the remedy is not to foreclose patents on all processes or products having use in research, but to refuse to grant patents on processes or products, be they designed for research or commercial use, whose applications do not meet a sufficiently high standard of disclosure."³³

The Requirement of "Double Invention"

The Supreme Court has held that the quid pro quo for a chemical product patent is not the disclosure of the compound and a technique of synthesizing it, but rather the disclosure of a use for

²⁷ See, note 1 *supra*, at 534.

²⁸ Grimaldi, "Utility and the New Legislation," 52 J.P.O.S. 669* (1970).

²⁹ Baines, *Research in the Chemical Industry* (1969).

³⁰ 35 U.S.C. § 100.

³¹ See, Velvel, "A Critique of *Brenner v. Manson*," 49 J.P.O.S. 8 (1967).

³² See, note 1 *supra*, at 533.

³³ See, note 31 *supra*, at 7.

the compound.³⁴ Paul Eggert agrees with the *Brenner* majority: "however incorrect the majority might have been on the basis of precedent, from the standpoint of public policy their decision was correct. The real contribution to the useful arts generally lies not in the synthesis of the new compound, but rather in putting that compound to practical use."³⁵

Yet, while society may be better off if the patentee discloses a practical use, the requirement of such disclosure is counterproductive when it places such a burden upon exotic chemicals researchers that invention itself is discouraged. As has been pointed out, "this will greatly increase the amount of research work required in this field. In effect, an inventor, in order to obtain a single patent, would be forced to make two inventions instead of one."³⁶ First, he must discover how to make the compound. Second, he must then discover how to use it, even where the compound's practical use may lie in a field far removed from the researcher's expertise. In addition, the scientists in a given field might be unaware of the existence of the new compound in question. Would it not then seem more progressive if the original researcher were permitted to obtain a patent; the patent disclosure would presumably bring the compound to the attention of those best able to develop its uses.

It may seem fashionable to belittle the role played by Inventor *A*, who synthesizes a new compound, as compared to Inventor *B*, who finds a use for it. However, in light of the remarkable syntheses of complex natural products and of compounds never found in nature, one might ask: Are the chemists who showed such remarkable insight into how to synthesize such compounds any less deserving of reward than the chemist who injects one into an epileptic mouse and discovers that it serves as an anticonvulsant? Are not both contributions prerequisites to technological advance?

In words attributed to Newton, "If I have seen far, it is because I stood upon the shoulders of giants." As easy as it may be to reject *A*'s work, it could likewise be said that *B*'s discovery merely brought to fruition the pioneering work done by *A*. While the average case history would probably lie somewhere between these two extremes, the point remains that per se rules are particularly inappropriate. *Brenner* has lessened the incentive to synthesize compounds which

³⁴ See, note 1 *supra*.

³⁵ Eggert, "Uses, New Uses and Chemical Patents—A Proposal," 51 J.P.O.S. 768 (1969).

³⁶ Boyle and Parker, "Patents for New Compounds," 27 J.P.O.S. 831 (1945).

would be expected to possess unusual physical and chemical properties but for which a practical application cannot immediately be visualized. Yet, it is in this exotic chemicals area that one is most likely to find products or processes that will revolutionize the chemical industry.

Availability of New Chemicals for Product Testing

It is a truism of chemical research that "laboratory research must begin with materials that can be purchased."³⁷ As pointed out in an Eastman Kodak advertisement, cited in Judge Smith's dissent in *Joly*:

The fewer the chemicals, the more laborious the work. The more compounds that can be purchased from us the more time our learned customers can put on research instead of preparing for research. . . . Availability governs feasibility for many a research idea in its fetal stages.³⁸

Despite this headstart made possible by the chemical supply houses, the synthesis of interesting chemicals may still be quite time-consuming. For example, the synthesis of Penicillin V by Prof. Sheehan of M.I.T. required nine years of painstaking labor.³⁹

There is an anecdote that Thomas Edison needed a solvent of special properties, and the chemical theory of the time was inadequate to guide him to the optimal compound. He tried every reagent in his stockroom, and on the 600th-or-so try, hit upon one which was eminently satisfactory. While one may say that chemical research is no longer such a hit-or-miss process, the difference is one of only degree.

Judge Rich has queried:

How can anyone do research work on steroids, adding and subtracting substituents, the presence or absence of which . . . have such profound effects on their physiological properties, and how can they investigate these properties, unless the steroids are first made available? Who will supply them if they cannot first be protected? Do we wish to restrict protection, as the majority would, to those manufacturing organizations which support their own biological testing facilities?⁴⁰

To a chemist, as has been wisely observed,⁴¹ a new chemical

³⁷ Ireland, *Organic Synthesis*, 26 (1969).

³⁸ The advertisement appeared in *The New Yorker Magazine*, at 133 (March 25, 1967). See, note 9 *supra*, at 914.

³⁹ Jaffe, *Chemistry Creates a New World* (1957).

⁴⁰ See, note 6 *supra*, at 962.

⁴¹ See, note 9 *supra*, at 914.

equates to a new tool of whose unique structure one may take advantage.

Many chemicals when first disclosed may be mere laboratory curiosities, but as technological advances create new material demands they prove to be of immense value.⁴² Yet, who will make available to chemists these mere laboratory curiosities with the knowledge that unless there is discovered a use they will be unable to recover their original research investment in the absence of patent protection.⁴³ A grant of a patent protection to the discoverer of a new compound where there has not yet been adduced a use for it, would provide incentive to make the compound available to those better fitted to inquire into its possible applications. Until a use is found the patent will produce no appreciable income. Rapid dissemination of knowledge of this compound is therefore the surest route to profiting from the invention.⁴⁴

This incentive is lacking when chemists must labor under the *Brenner* rule since the sale of the chemical to others would constitute such "public use or sale"⁴⁵ as to bar the seller/inventor from ever obtaining a patent on the chemical. What current incentive is there for him to take such a risk?

Uncertainty of Patentability

If there is anything the post-*Brenner* cases illustrate, it is the difficulty facing a researcher in comprehending what the Court now requires in a utility disclosure. Rather than plunge into the morass, many inventors will probably not apply for a patent at all, relying instead on their ability to keep the information proprietary. Thus, no benefit inures to society where the *Brenner* rule creates so much confusion that researchers elect to take refuge in trade secret protection, rather than the patent system.

Utility and Nonobviousness

Assume a scientist knows that a certain steroid compound, call it *Q*, is specific for malaria. Unfortunately, *Q* has undesirable side effects. After four years, the researcher succeeds in synthesizing *R*, which has a structure similar to that of *Q*. He sends *R* to a

⁴² See, e.g., note 36 *supra*, at 837.

⁴³ Cf., "Symposium: The Role of Patents in Research," NAS-NRC Publ. 980-B (1962) at 162.

⁴⁴ See, note 6 *supra*, at 961.

⁴⁵ 35 U.S.C. § 102.

biological testing laboratory for evaluation, and in the meanwhile applies for a patent. Two possible grounds for denial will arise. First, the application might be denied, the Court, asserting that *Q*'s use indicates nothing so far as *R* is concerned—a small difference in structure may drastically alter biological activity.⁴⁶ Second, it might also be denied since the two compounds are homologues, and therefore, obvious to anyone skilled in the art that these two compounds would have similar properties absent a showing that *R* had any unexpected properties.⁴⁷

Research Funding

A large number of the inventions in the field of new chemical compounds are made by investigators working for scientific foundations which are supported by means of royalties obtained by the licensing of patents taken out by the foundations. Without this royalty income, there would probably be no research.

To a corporation, it is clear that the longer a chemical research project will take from its inception to fruition into an invention, the less attractive the project will seem and the more likely the idea would be put aside.

Assuming *Brenner* necessarily increases this gestation time, the project's expected value and likelihood of funding is further diminished. The end effect may be a loss of a major breakthrough.

Delayed Disclosure

A chemist, having synthesized a new substance, will have to delay applying for a patent until he has determined its practical utility. This may take several years. During the waiting period, the scientific world remains ignorant since the inventor will not want to invalidate his application by a premature publication of his research findings.⁴⁸ *Brenner* would seem to further obstruct the rapid interchange of ideas, the basic goal of our patent system.

Processes and Intermediates

Under *Brenner* a process or intermediate will not be patentable if the product yielded is without a known use. J. G. Jackson has

⁴⁶ See, e.g. note 25 *supra*.

⁴⁷ See, e.g., Application of Henze, 181 F.2d 196 (1950), In Re Hass, 141 F.2d 122 (1944). Cf. Application of Papesch, 315 F.2d 381 (1963).

⁴⁸ 35 U.S.C. § 102.

commented on the contretemps that may ensue when the use for the yielded substance is at last discovered:

The intermediate will be a potential invention held in suspended animation. It is not a patentable invention. The inventor of the intermediate will have to wait until someone produces a useful product from the intermediate. Then we will have a serious question as to who has made the invention of the intermediate.⁴⁹

This dilemma equally applies to a process.

Inhibition of the Fine Chemicals Industry

The very existence of the fine chemicals industry, which makes available to chemists a vast array of both commonplace and exotic compounds, attests to the importance of these chemical tools. *Brenner* will not only result in these chemical tools being less available to industry, but will equally stunt the growth of the fine chemicals industry and reduce the demand for its services.

Fabrications of Utility

Some chemists operating under the strict requirements of *Brenner* may manage to circumvent the problem by alleging a frivolous use, e.g., knowing that cancer research not only takes a long time but also rarely brings out direct utility, one chemist had to contrive uses for the compounds he was investigating, lest his patent claims be disallowed.⁵⁰ In one case he hydrolyzed the compound's carboxylate radical, and converted the free acid into a copper salt, being certain that the copper cation would have a fungicidal effect. It did, and he claimed the compound as a useful intermediate in the preparation of fungicides. In another instance, he sulfonated the compound to obtain a material which possessed surface-activity, even though he knew it would never be used commercially as an intermediate in the production of a "wetting-out" agent.

These fabrications of utility not only waste a precious national resource—the working hours of the chemist—but also serve no public purpose and tend only to mislead other researchers, rather than help them. A detailed allegation of research utility would therefore seem far more beneficial to all parties concerned.⁵¹

⁴⁹ See, note 6 *supra*, at 958.

⁵⁰ *Id.* at 960.

⁵¹ See, Grimaldi, "Utility and the New Legislation," 52 J.P.O.S. 698 (1970).

Summary

The reasons for granting inventors an exclusive right for a limited term, to use or license others to use their invention, has been stated by Professor Eggert:

- to induce potential inventors to invent;
- to reward those that are successful;
- to induce the flow of capital into commercial development of the invention;
- to encourage disclosure of the details of the invention and thereby discourage trade secrets so that the public may use the invention freely after 17 years;
- to provide a repository of current knowledge to be used as a source of further invention.⁵²

It is here contended that our present policy dissuades inventors from inventing, slows the interchange of ideas, retards commercial development of inventions, and places a premium on subterfuge.

Any discussion centering on whether Congress should liberalize the present utility requirement, begs the question: How should they do it? After all, the requirement that an invention be useful is enumerated in the Constitution itself.⁵³

As pointed out by Professor Velvel, there is little cause for apprehension. "It is not that it would be impossible for the Court to raise a Constitutional bar, for the Court could conceivably hold that research utility is below the constitutional threshold of patentability. Rather, it is that such a holding is unlikely in the extreme."⁵⁴ In *Brenner*, the court implied that it would indeed vindicate a new and nonobvious patent claim, supported only by an allegation of research utility, if "clearly commanded by the statute."⁵⁵

It remains necessary, therefore, to structure and analyze proposals for revision of the utility requirement. Five such proposals will now be discussed. They are:

- I. CHEMICAL COMPOUNDS ARE PATENTABLE PER SE. OPERABILITY SHOULD BE THE TEST OF PROCESS PATENTABILITY.
- II. THE TERM "USEFUL" SHALL INCLUDE, BUT NOT BE LIMITED TO, UTILITY IN AGRICULTURE, COMMERCE, INDUSTRY AND RESEARCH.
- III. A "CERTIFICATE OF NOVELTY" MAY BE GRANTED ON AN INVENTION WHICH SATISFIES §§ 102 and 103

⁵² See, note 35 *supra*.

⁵³ U.S. Const., Art. I, § 8, cl. 8.

⁵⁴ See, note 31 *supra*, at 13.

⁵⁵ See, note 1 *supra*, at 534.

OF TITLE 35, BUT FOR WHICH NO SPECIFIC ALLEGATION OF UTILITY IS MADE. IT SHALL PROFFER SIX YEARS' PROTECTION. SUCH PROTECTION SHALL BE EXTENDED TO A FULL SEVENTEEN YEAR TERM IF BEFORE THE CERTIFICATE EXPIRES, THE INVENTOR ADDUCES A USE FOR HIS INVENTION.

- IV. CHEMICAL COMPOUNDS ARE NOT PATENTABLE. PATENTS MAY BE OBTAINED ON "HOW-TO-MAKE" OR "HOW-TO-USE" A CHEMICAL COMPOUND. OPERABILITY SHALL BE THE TEST OF PROCESS PATENTABILITY.
- V. AS IN PROPOSAL I, BUT CROSS-LICENSING BETWEEN THE ORIGINAL PRODUCT PATENTEE AND A "NEW USE" PATENTEE SHALL BE COMPULSORY. THE "NEW USE" PATENTEE IS NOT THEREBY PERMITTED TO PUT THE PRODUCT TO ANY USE NOT DISCLOSED.

The patent system is, in a sense, a state-controlled market for certain kinds of information. A balance must be struck between what the public receives on the one hand and what the inventor receives on the other.

The initial difficulty is that to narrow the scope of the patent protection on the "parent" invention is to reduce the incentive to disclose. In economic terms, courts, by imposing a "price ceiling" on our "new-technology-disclosure-market," are driving down the supply of inventions to the Patent Office.

Proposal I has the virtue of administrative convenience. Concomitantly, the inventor's only obligation is to disclose the composition of the product or the steps comprising the process—an obligation not all that insubstantial.

While Proposal II requires a disquisition as to utility, it nevertheless frees chemical researchers from the *Brenner* straitjacket. It further reflects the belief that an honest allegation of research utility better serves the public than does a fabrication of utility. Proposal II therefore, represents a compromise between *Brenner* and Proposal I.

A more adventurous approach is detailed in Proposal III. First, it attaches a higher price and gives broader protection to a patent containing a use-disclosure as well as a compound disclosure, as compared to one containing only the latter. Second, it gives the patentee a grace period in which to explore the nascent applications of his invention. Proposal III, however, is no more than a palliative, since many of the weaknesses of *Brenner* remain.

Proposal IV, as urged by Professor Eggert,⁵⁶ has many merits.

⁵⁶ See, note 52 *supra*.

For one, no patentee may block off whole areas of scientific development, without compensating benefit to the public, as the *Brenner* majority feared. Furthermore, it eliminates the inequities inherent in the new use doctrine which gives extremely broad protection to the first inventor of a compound and very minor protection to one who subsequently discovers an additional and equally valuable use, by placing both inventors on an equal legal footing. Finally, it does not force an inventor to wait before applying for a patent until he finds a practical use, does not raise the standards of invention, and is administratively convenient.

Unfortunately, this proposal has one very real deficiency—enforcement of “how-to-make” and “how-to-use” patents against infringers must be done at the “use,” rather than the “manufacturing” level. Thus, enforcement would prove an extremely difficult problem originally addressed by Prof. Eggert. Prof. Eggert admits that, “Potential use patentees might object that by restricting them to control at the use level rather than at the manufacturing level, enforcement against infringers will prove difficult.”⁵⁷ He attempts, however, to discount this criticism by pointing out that process patents must also be enforced at the use level, and by pointing out the inherent ability of a patentee’s sales force to identify covert users. Yet, process patent rights are less marketable because of such difficulties. This might then be true of all chemical patents. Dependence on the patentee’s marketing structure to yield the hard evidence necessary for winning an infringement suit would become suspect, especially where an infringement occurred at the “corner drugstore” level.

It might be better to explore how a “how-to-use” patent holder could be given more protection without jeopardizing the public interest, *e.g.*, 35 U.S.C. § 271 could be amended to provide that one who sells or manufactures a commodity with the knowledge or belief that it is being used in such a way as to constitute an infringement of a “how-to-use” patent shall be liable as a contributory infringer. An innocent marketer of chemicals could not be held liable since the element of scienter would be lacking. This revision would allow the patentee to enforce his patent at the distributing and manufacturing levels, assuming he can prove the defendant’s knowledge.

The protection offered by process patents is likewise somewhat unsatisfactory. That protection might be enhanced by a statutory provision similar to the following:

⁵⁷ *Id.* at 788.

In an action for infringement of a patent where the invention relates to the production of a new substance, any substance of the same chemical composition and constitution shall, in the absence of proof to the contrary, be deemed to have been produced by the patented process.⁵⁸

A salutary effect of such a provision is that if one has developed a patentable process yielding the same product as that previously produced by another's patented process, he may patent it rather than keep it proprietary, as an infringement suit by the other would force him to reveal the secret or pay damages.

The operation of proposal V may be illustrated as follows: *A* patents the product, alleging that it may be used as an antiseptic. *B* obtains a new use patent disclosing that the product may be used as a rocket fuel oxidizer. Under Proposal IV, *A* may make and use the product as either an antiseptic or as an oxidizer. *B* may make and use the product as an oxidizer. Any other person who made no patentable contribution must obtain a license from *A* to make or use the product, and from *B* if they wish to use it as an oxidizer. While the original patentee would suffer some diminution of his patent right, he might also be rewarded since *B*'s discovery of a new use may eventually serve to increase *A*'s market and profits, depending on the relative competitive positions of *A* and *B*, one to the other.

⁵⁸ This provision is a feature of Canadian Patent Law. R.S.C. Ch. p-4 § 41(2).

COMMENTS

Dear Editor:

I have read "Employed Inventors: The Case For the Moss Bill" by Sutton and Williams in the Winter, 1975 issue of *Idea*—with, I must say, disappointment.

Apologizing in advance to the authors for what they may feel is severe criticism, I find their paper superficial, somewhat naive, and nothing but a rehash of earlier papers, including one of mine. The literature is full of theories and rationalizations, as evidenced by the authors' bibliography. It is time to make some factual studies to confirm or set at rest the various arguments on both sides.

To keep this review short, I will not be exhaustive but will point out a few matters which form the basis for my adverse reaction.

The authors correctly cite authorities and then draw, to me, strange conclusions.

Under the heading "The Patent System Rewards Inventors for Disclosing Inventions," the authors chide those of us opposing the Moss concept by alleging that we "appear to have forgotten the fundamentals that underlie the whole philosophy of the patent system. . . . Curiously absent is any consideration of the creator of the invention. . . . Is the patent system merely to encourage investors to invest? . . . It is abundantly clear that it is not, and that consideration of investors forms no part of the patent fundamentals."

What are these fundamentals? I agree with Justice Story that "our patent system is designed to promote the progress of . . . useful arts." I agree with *Goldstein v. California* that "the terms 'to promote' are synonymous with the words 'to stimulate,' 'to encourage,' or 'to induce.'" I agree with the authors that "The ultimate goal of the patent system is to benefit the public by encouraging the disclosure of inventions that might otherwise be withheld from disclosure as trade secrets. . . ."

But I depart from the authors' apparent views that encouragement comes only from negotiated financial reward on a patent by patent basis. Rewards are numerous and varied; financial reward comes in different forms only one of which is considered constitutional by the authors. The intangibles are very real. I believe it is beside the point to argue that "The purpose of the patent system is not simply to induce investors to put their money into inventions

for development.” Of course it is not—but the inventor’s reward *always involves* investment whether his own or another’s and is neither illegal nor unconstitutional.

Moving on to a second issue, the authors ignore or distort serious problems. For example, the authors quote my observation that corporate inventors are provided with training “plant, tools, environment and other associations, technical background, capital, etc.” They dismiss this substantial contribution as providing “pencil and paper!”

The authors also ignore the real problem of how to handle the multiple patent product. A color TV receiver, a computer system, or an automatic elevator system may employ 10, 20, 30 or more patents. If we assume 20, do we allocate 3% of the selling price of the TV receiver (i.e., $3/20$ of 1 percent per patent), or do we charge $3/4$ of 1% for each patent (i.e., 15% per receiver)?

I’ll refer to only one other aspect of the problem. The authors look with favor on the German experience. I have not studied the German formula nor how it works in practice. One German patent attorney has told me that the law has little impact because large companies routinely file patent applications on employee inventions, pay minimum remuneration, and abandon most cases. Employees, generally, don’t challenge the boss. I have no idea how accurate this observation may be—but neither do the authors as far as can be gleaned from their paper.

What we need is a moratorium on personal opinions (which aren’t proofs) and conclusions (which aren’t supported by facts). What we need is an indepth study—perhaps along the line of updating and enhancing Neumeyer’s study—involving inventors, employers, employees and the actual results of existing systems and laws here and abroad.

April 1, 1976

T. L. BOWES
Executive Director
Intellectual Property Owners, Inc.
Washington, D.C.

A Review

Paul Mathély, "Le Droit Français Des Brevets D'Invention"
(Journal des Notaires et des Advocats; Paris, 1974; 917 pages).

It is a matter of special gratification that Mr. Mathély, the eminent leader in the French Bar in the field of Industrial Property and the famous Rapporteur General of the International Association for the Protection of Industrial Property, has found it possible to take the time to write this important work. This deals primarily with the French law on Patents of Invention but the mind of the author is too internationally attuned to be limited to the boundaries of his nation. Indeed, he could not have given a clear view of the French law without a reference to general principles applicable in this field.

The Introduction places French law within the historical and philosophical framework of universality in defining the right in patents of invention, its justification and its economic role. In outlining the sources of the French law, the author properly views them, as is the reality in Continental European law, as being tripartite: legislation, court decisions, and juristic writing. And in legislation he discusses three parts: the national legislation of France, the provisions of the International Conventions, and the European Community's law.

Patentability of invention forms the subject of a long part of the book which discusses patentable inventions, novelty, industrial application and inventive activity, and as all of these have been changed by the law of 1968.

Next the author deals with the requirements for, and the grant of, patents including particularly the question of claims under the law of 1968, the requirement for an abstract, and the "avis documentaire" now issued with a patent. Then follow expositions

on the problem of the inventor and the patentee wherein there is a full discussion of employee inventions, the exclusive right conferred by the patent, assignments and licenses, the very important subject of restrictions on the patentee's rights, and the causes and procedure of annulment and forfeiture of the patent.

A very extensive part of the book deals with infringement of patents and the particular procedures of the French law. Lawyers interested in the subject of protection of patent rights in France will welcome particularly this authoritative presentation of this part of the French law, on which there has been in the past considerable amount of uncertainty, if not of darkness.

As it was to be expected, four long chapters of the book are devoted to the "unionist law on patents" which involve an analysis of the Paris Convention and its attachments to the French law.

Pleasantly surprising is the inclusion of a long Annex of nearly fifty pages on "neighboring rights" to patents (a very happy expression), that is, know-how trade secrets, and protection of new plant varieties.

One expected a book by Mr. Mathély to be written in his usual clarity of thought, precision and concision of expression. So far as I know, this is the first treatise published by this busy lawyer whose time is mostly taken in opinion-writing and litigation. We are very glad to have this major work.

STEPHEN P. LADAS
*Ladas, Parry, VonGehr, Goldsmith &
Deschamps*
New York

Casper J. Werkman, "Trademarks—Their Creation, Psychology and Perception" (Published by Uitgeverij J. H. Bussy B. V., Amsterdam in cooperation with Harper & Row Publishers, Inc., Barnes & Noble Import Division, New York, for the United States and the Philippines and Longman Group Ltd., London, for the British publishers traditional markets. 1974; 496 pages).

Casper J. Werkman is a leading international authority on trademarks. After a distinguished career as a trademark practitioner in industry, he joined the World Intellectual Property Organization (WIPO) in 1969, in Geneva, where he participated in preparatory studies for the Patent Cooperation Treaty, the Trademark Registration Treaty and the Mechanization of Trademark Searching Project. He is now Head of WIPO International Trademark Registration Section.

The book represents the results of Mr. Werkman's accumulation of knowledge and experience in a highly specialized field to which he has devoted himself for many years. It is a broadly based analysis of the philosophy, use and construction of modern trademarks and should be of unique value to businessmen, attorneys, advertisers and others interested in trademark activities.

The book consists of four Parts divided into 14 sections, each with separate sub-sections. Part I, entitled "Trademarks at Present," deals with the function and use of trademarks. It defines what trademarks are and do; the information they convey, directly and indirectly, about the company, its products and services; their techniques of usage in advertising; and their visual perception and interpretation by the consuming public.

Part II, on "International Differences: An Analysis of Trademarks in Depth," is the longest in the book. It analyzes the influence of cultural and historical trends in the U.S., France, United Kingdom, and Germany on trademark creation. Customs, styles and other factors affecting trademark design are discussed in detail. In each of these countries, Mr. Werkman has selected the brassiere, perfume, automobile, and cigarette manufacturing industries for detailed treatment on the conception and development of pertinent trademarks. He describes cultural and historical attitudes, as well as language patterns on trademarks, with insights into public preferences for certain word patterns.

In Part III, on "Horizontal Analysis of Trademarks," Mr.

Werkman deals with image motifs, such as the sun, eyes, women, the stars, horses, crowns, or hands, and how they are applied to trademarks in different cultures. The chapters in this Part are interspersed with illustrations and examples of these motif symbols and their use in trademark designs. He also deals with the historic heritages of these motifs and their value in enhancing consumer attraction qualities of trademarks. The last Part (IV) on "The Future" discusses rejuvenation and up-dating of older trademarks, creation of new marks, and procedures for insuring their legal protection.

Mr. Werkman also describes a technique which he has developed for use of computers to solve the problem of generating new registerable words. The book concludes with a bibliography and index.

The book is clear, specific and easily readable. It is historical in background and practical in its approach—instructive reference data relative to trademark conception and use. The growing U.S. interest in trademark matters is evidenced by the increased number of marks used and registered by our citizens at home and abroad, for products and services. It is thus gratifying to see a work of this type, prepared by a leading international trademark specialist, available to the American public for educational and business purposes.

JOSEPH M. LIGHTMAN
MEMBER PTC RESEARCH FOUNDATION
EDITORIAL REVIEW BOARD



LAW CENTER REPORT

We are initiating this column in IDEA in response to the requests of readers for continuing information on Law Center programs, including more particularly those bearing upon the interfaces of technology, commerce and law, of which the industrial and intellectual property field is, of course, a vital part.

Our initial working arrangements with the University of Strasbourg Law School¹ (Universite' des Science Juridiques, Centre D'Études Internationales De La Propriété Industrielle—CEIPI) were completed this summer through the kind efforts of our French adjunct faculty member, M. Jacques Kessler, who served as my strong ally in establishing our first student exchanges in international study that commence this October. We look forward to many years of fruitful interchange under the guidance of CEIPI's able directors, Professor J. J. Burst and F. Savignon.

Research cooperation with the Max Planck Institute² for Foreign and International Patent, Copyright and Competition Law, was also agreed upon in July at a session at the Institute in Munich, attended by myself, our Law Center Secretary (and Executive Vice President of the Academy of Applied Science) Howard S. Curtis, M. Kessler and Institute Director Dr. Friedrich-Karl Beir and his staff. We presently plan to send our first Max Planck fellow to Munich early next year, not only to engage in research under Institute programs, but to aid in editing their English-language journal IIC and to act as a liaison with our journal IDEA. A reciprocal program at the Law Center-PTC is being planned.

Thus, we have the opportunity to enrich Law Center programs, while bringing greater understanding, education and cooperation to bear in the relationships between its European Economic Community and the United States in the fields of technology and the law.

Robert H. Rines, Dean and
Professor of Law
Franklin Pierce Law Center
Trustee, the PTC Research
Foundation

¹ IDEA, Vol. 17, No. 2, p. 2.

² IDEA, Vol. 18, No. 1, p. 2.

NOTES ON PTC PROGRESS

PTC Director

On July 1st, 1976, Professor Joseph F. Vittek, Jr. became the Director of the PTC Research Foundation. As a Professor of Law at the Franklin Pierce Law Center, he will teach courses in Law and Technology and Administrative Law. As Director of the PTC, he will coordinate and expand its research program. By holding both positions, he will bring together the academic interests and the real world problems to add a new dimension to PTC research.

Professor Vittek was formerly on the faculty of the Massachusetts Institute of Technology where he will continue to lecture on Technology and Law. While at M.I.T., Professor Vittek organized several national conferences on technical policy issues and will apply that experience to upcoming PTC programs.

He holds a B.S. from M.I.T. and law degrees from Suffolk and Harvard and has held key technical and administrative positions in industry and research laboratories.

We welcome Professor Vittek to the PTC and look forward to a period of new growth and prosperity under his direction.

PTC Western Office

H. Damon Swanson, the Acting Director of the PTC for the past two years, has graduated from the Law Center and returned to his home state of Colorado. We have taken advantage of his move to establish a PTC Western office in the Denver area.

As manager of the Western office, Dr. Swanson will assist in research activities and strengthen the lines of communication between the PTC and its West Coast members. He will also serve as a contributing editor to IDEA which has grown in both quality and circulation during his term as Editor.

We take this opportunity to thank Dr. Swanson for his leadership over the past two years and to wish him good luck in his new activities.

New Faculty

In addition to Professor Vittek, Professor Michael S. Baram also has joined the law/science faculty of the Law Center. He will be teaching Environmental Law and Law and Social Control of Science and Technology.

Professor Baram is also an Associate Professor in Civil Engineering at the Massachusetts Institute of Technology, a member of the Boston University School of Law Special Faculty, and engaged in law practice focused on environmental and other regulatory matters. He is a consultant to the Brookhaven National Laboratory and to the World Health Organization. Currently, he serves on several committees of the American Bar Association, including Vice-Chairman of the Committee on Environmental Law—General Practice Section, and member of the Governing Council—Section on Science, Technology and Law. He has chaired the Committee on Technology Assessment. Concurrently, he is a member of two committees of the National Academy of Sciences and advisor to a third. Professor Baram is involved in research in mineral resources, energy facilities siting, and government regulation of health hazards. The author of numerous articles, Professor Baram's most recent book, *Environmental Siting of Facilities: Issues in Land Use and Coastal Zone Management*, was published in April, 1976. Professor Baram will be playing an active role in matters of Law and Technology in the PTC.

New Directions

Notice our new name? Starting with this issue, IDEA will also be known as The Journal of Law and Technology. This is in keeping with the ever-expanded scope of the PTC.

With the addition of Professor Vittek and Professor Baram to the Law Center faculty, we now have the capability of exploring broader issues of government and legal controls over innovation, property, technology and commerce as well as dealing with our traditional concerns of Patent, Trademark and Copyright Law. This expansion is also reflected in the Fall Arbitration Conference, described in this issue. We hope this change will encourage our readers and members to submit articles on all aspects of government and legal intervention and control of private enterprise and the resulting impact of innovation. This is your chance to discuss new aspects of the legal/technical interface and we look forward to your responses.

Announcement of Fall Arbitration Conference

On November 29th and 30th, the PTC is planning to host a conference in Boston exploring expedited resolution of disputes having highly technical factual issues by arbitration.

The program includes the following speakers:

Honorable Donald R. Moore
Administrative Law Judge (Retired)
Federal Trade Commission
Washington, DC

Honorable Maurice P. Bois
Associate Justice,
New Hampshire Supreme Court
Concord, NH

James A. Curley, Esquire
Assistant Chief, Patent Section
Antitrust Division
Department of Justice
Washington, DC

Robert H. Rines, Esquire
Rines & Rines, Boston, MA
Dean, Franklin Pierce Law Center

Alan A. Ransom, Esquire
Committee on the Judiciary
U.S. House of Representatives
Washington, D.C.

Ronald A. May, Esquire
Wright, Lindsey & Jennings
Little Rock, Arkansas

Richard M. Reilly
Regional Director, AAA
Boston, MA

A. Lane McGovern, Esquire
Ropes & Gray
Boston, MA

Harry Goldsmith, Esquire
Upper Montclair, N.J.

Cameron K. Wehringer, Esquire
Wehringer & Kojima
New York, N.Y.

James B. Gambrell, Esquire, Professor of Law
University of Houston College of Law
Partner, Pravel, Wilson & Gambrell

Theodore L. Bowes, Esquire
Intellectual Property Owners, Inc.
Washington, D.C.

Albert B. Kimball, Jr., Esquire
Partner, Pravel, Wilson & Gambrell
Houston, Texas

Edward F. McKie, Jr., Esquire
Schuyler, Birch, Swindler, McKie & Beckett
Washington, D.C.

Gerald Aksen, Esquire
General Counsel, AAA
New York, N.Y.

Dr. Pauline Newman, Esquire
FMC Corporation
Philadelphia, PA

Edward J. Brenner, Esquire
Arlington, VA

Because of the relative novelty of the subject matter, we are making an early announcement in order to be able to assess demand and secure adequate facilities. Also, the time and location of the conference will provide some opportunity to take advantage of the attractions in Boston in the Bicentennial year. Some lead time will also be necessary to meet any such interest on the part of registrants.

Subscribers to *IDEA* will receive advance registration materials. In the event you would like additional copies, or further information please write to Professor Thomas G. Field, Jr., at the Franklin Pierce Law Center, 6 White Street, Concord, New Hampshire 03301.

The Legal Protection of Abstract Ideas: A Remedies Approach*

LOUIS BERNARD JACK**

"An abstract literary idea is as much public property as is a park bench"

Prof. M. Nimmer

Introduction

Ideas do not grow on trees—they are the product of people's minds. "Good" ideas not only advance us on our road towards civilization, they can also be lucrative. The theory underlying this paper is that one who thinks up a "good" idea (the idea man) should be able to share in the ultimate financial reward which accrues to the person who harnessed the idea (the money man).

The common law has been less than sympathetic to this proposition, ostensibly in order to safeguard a larger public interest in "the untrammelled dissemination of ideas."¹ Consequently, the umbrella

* This article is dedicated to my sister Susan, and to all other creative people whose ideas deserve to be protected.

** Mr. Jack is a 1976 graduate of the Georgetown University Law Center, Washington, D.C.

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¹ Kaplan, AN UNHURRIED VIEW OF COPYRIGHT viii (1967). Prof. Nimmer has even warned that copyright protection of an author's mere ideas "would certainly be a serious encroachment upon first amendment values." "Does

of statutory² or common law³ copyright protection for ideas has been all but slashed to pieces by the courts.

It is now firmly entrenched and oft repeated that since mere ideas are "as free as the air,"⁴ copyright law protection is given "only to the expression of the idea—not the idea itself."⁵ According to the Second Circuit, "The principle . . . is that only in the 'expression' of a copyrighted work does any monopoly inhere; the 'theme' the 'plot,' the 'ideas' may always be freely borrowed."⁶

In light of the conspicuous absence of a copyright remedy for idea "borrowing," creators of ideas must look to property and contractual theories for legal protection. In the following discussion of these alternate avenues of recovery, the reader should bear in mind that the above-mentioned express disavowal of copyright protection has resulted in an unspoken judicial hostility to idea cases. In spite of their nominal use of property or contractual

Copyright Abridge the First Amendment Guaranties of Free Speech and Press?," 17 U.C.L.A. L. Rev. 1180 at 1189 (1970). Nimmer attempts to justify the absence of copyright protection for ideas in the Jeffersonian theory that democracy needs a flow of free ideas to educate and inform the masses making political decisions. However, it is difficult to perceive a relation between movie producers being required to pay for their material and how the American people vote in elections.

² Holmes v. Hurst, 174 U.S. 82 (1899); Kalem Co. v. Harper Bros., 222 U.S. 55 (1911); Nichols v. Universal Pictures Corp., 45 F. 2d 119 (1930), *cert. denied* 282 U.S. 902, 51 S. Ct. 216 (1930); Sheldon v. M.G.M. Pictures Corp., 81 F.2d 49 (1936); Shipman v. R.K.O. Pictures Corp., 100 F.2d 533 (1938); Dellar v. Samuel Goldwyn, Inc., 150 F.2d 612 (1945).

³ Fendler v. Morosco, 253 N.Y.S. 281, 171 N.E. 56 (1930); Weitzenkorn v. Lesser, 40 Cal.2d 778, 256 P.2d 947 (1953); Desny v. Wilder, 46 Cal.2d 715, 299 P.2d 257 (1956); Ware v. Columbia Broadcasting Sys., Inc., 61 Cal. Rptr. 590, 155 U.S.P.Q. 413 (Ct. App. 1967). *But see* Fink v. Goodson-Todman Enterprises, Ltd., 9 Cal. App. 3d 996, 88 Cal. Rptr. 679 (1970) and Silver v. Television City, Inc., 215 A.2d 335, 148 U.S.P.Q. 167 (1965). Ideas for television series are protectible by common law copyright under circumstances amounting to an implied-in-fact contract. *See also* Colvig v. K.S.F.O., 36 Cal. Rptr. 701, 140 U.S.P.Q. 680 (1964).

⁴ *See* Fendler v. Morosco, 253 N.Y. 281, 171 N.E. 56 (1930).

⁵ Leeds Music Ltd. v. Robin, 358 F. Supp. 650 (1973). Although the U.S. Copyright Office does register television and radio scripts under § 202.6 of its Regulations, the decisions indicate that this protects only against infringement of expression, not of the underlying idea or format.

⁶ Dellar v. Samuel Goldwyn, Inc., 150 F.2d 612 (1945). *See* note 9 *infra*, 620 *et seq.* for an examination of the various judicial "tests" which have developed to distinguish an idea from its expression. In "Legal Protection of Ideas—A Judge's Approach," 43 Virginia L. Rev. 375 (1957), Judge Leon Yankwich attempts to equate "ideas" with "unoriginality" and "expression" with "originality." He therefore concludes that the reason ideas are not protectible by copyright is because they are not original as required by the Copyright Act and Article I, Section 8, Clause 8 of the U.S. Constitution. The Judge's reasoning seems "clearly erroneous." *See also*, Note, "Constitutional Limits on Copyright," 68 Harv. L. Rev. 517 (1955).

jargon, the courts continue to operate in a copyright framework, allowing recovery only if the thing to be protected was copyrightable in the first place (and hence more than a mere idea,) or if the facts of the plaintiff's case fairly cry out with injustice.

The Property Theories

Fundamental to the concept of property "is the legal right to exclude others from enjoying it."⁷ Since abstract ideas are "as free as birds" and "may always be freely borrowed" with the condonation of the courts,⁸ they are not often granted the legal status of protectible property. Nor should the reader be surprised that there have been "only a small number of cases in which the courts have protected ideas on a property theory"⁹ Moreover, such protection "is generally subject to the requirements of novelty and concreteness."¹⁰ As noted before, this has meant that the few plaintiffs who succeed on a property theory usually have had an idea that was capable of being copyrighted in the first place.

The case of *Richards v. Columbia Broadcasting System*¹¹ is representative of judicial reaction to "ideas as property" cases. The plaintiff alleged that the defendant had infringed his copyrighted pilot script (television format) for a quiz show based on motion pictures ("Name the Star.") The court began by stating that the elements of common law misappropriation of literary property are the same as those which must be proven for copyright infringement: viz., "(1) access; (2) substantial similarities between the two works; and (3) copying of the plaintiff's work by the defendant."¹² The court went on to say that "[t]he mere idea alone of basing a quiz program on motion pictures, even if it were original, would not be subject to protection under the copyright laws."¹³ Finally the courts found no substantial similarity between the plaintiff's script and the defendant's program, and granted the defendant a summary judgment.

⁷ Brandeis, J., dissenting in *International News Service v. Associated Press*, 248 U.S. 215, 250 (1918). Blackstone speaks of property as the right of "sole and despotic dominion." 1 BLACKSTONE COMMENTARIES 138 (4th Ed. 1899).

⁸ *Supra*, notes 4-6 and accompanying text.

⁹ M. Nimmer, A TREATISE ON THE LAW OF LITERARY, MUSICAL AND ARTISTIC PROPERTY, AND THE PROTECTION OF IDEAS p. 717 (1974) (hereinafter cited as NIMMER).

¹⁰ *Id.* at 719.

¹¹ 161 F. Supp. 516 (1958).

¹² *Id.* at 517, quoting *Costello v. Loew's Inc.*, 159 F. Supp. 782 (1958).

¹³ *Id.* at 518.

The implication of the case is that a television format idea is not copyrightable, nor is it property capable of being copied.

Nowhere in its opinion, did the *Richard* court mention its prior decision in *Belt v. Hamilton National Bank*.¹⁴ In *Belt*, Judge Holtzoff had declared only 5 years earlier that "the law now gives effect to a property right in an idea even though the idea may be neither patentable nor subject to copyright."¹⁵ Whether the plaintiff's idea for a radio format was protectible property was said to depend only on its "concreteness" and "novelty." This was left for a jury to decide.

In affirming, the Circuit Court of Appeals further refined the jurisdiction's approach by stating that an idea may be protectible property only if:

... it is definite and concrete, new and novel, has usefulness and is disclosed for commercial purposes in circumstances which the parties ought reasonably to construe as contemplating compensation for use.¹⁶ (Emphasis supplied.)

The precedential significance of *Belt* is unclear. Professor Nimmer suggests that since the Circuit Court made recovery hinge on the circumstances of disclosure, *Belt* is not a property theory case but an implied-in-fact contract case. Moreover, even if *Belt* does offer a hook on which to hang property theories, its offer may have lapsed from non-acceptance in its own jurisdiction.¹⁷

Similar to the *Belt* approach is that followed in *Puente v. President and Fellows of Harvard College*,¹⁸ an action for misappropriation of the property right in the plaintiff's idea for a loose leaf foreign tax service. The District Court stated the law as follows:

An idea may be a property right. However, when the author of an idea voluntarily submits to another the information contained in his idea, no promise by the recipient to pay for its use can be implied if the elements of novelty and originality are absent, since the property right in an idea is based upon these two elements.¹⁹

In affirming the lower court's summary judgment for the defendant, the Court of Appeals for the First Circuit was more restrictive:

¹⁴ 108 F. Supp. 689 (1952), *aff'd* 210 F.2d 706 (1953).

¹⁵ *Id.* at 691.

¹⁶ 210 F.2d 706 at 709 (1953).

¹⁷ *Richards v. Columbia Broadcasting System*, 161 F. Supp. 516 (1958); *Curtis v. Time, Inc.*, 147 F. Supp. 505 (1957); *cf. Noble v. Columbia Broadcasting System*, 270 F.2d 938 (1959). The *Belt* decision had enough life left in it to warrant this court's acknowledgement of its "novelty" requirement.

¹⁸ 149 F. Supp. 33 (1957), *aff'd* 248 F.2d 799 (1957).

¹⁹ *Id.* at 34.

An idea, as distinguished from the copyrighted contents of a book . . . , is accorded no protection . . . unless it is acquired under such circumstances that the law will imply a contractual or fiduciary relationship between the parties.²⁰ (Emphasis supplied.)

The Fifth Circuit has also limited the usefulness of the misappropriation theory by holding that in order for an idea to constitute property capable of being misappropriated, it must be novel and it must have been disclosed under confidential circumstances.²¹

Thus, it appears that the Circuit Courts in *Belt*, *Puentes* and *Eastern* have made an implied contractual relationship between the parties a condition precedent to recovery for misappropriation of an idea. This unwarranted encumbrance of a property theory is but additional evidence of the previously noted judicial antipathy towards the notion of mere ideas as legally protectible property.

At one time, ideas were considered protectible property in California. Contrary to the common law that ideas were "as free as air," Section 980 of the California Civil Code had stated flatly since 1872 that "any product of the mind" would be protected as the author's exclusive property. Therefore, the California Courts had granted extensive protection to literary ideas in actions brought under Section 980.²²

In 1947, the California Legislature amended Section 980 to protect only the "representations or expression" of a "composition in letters or art."²³ The "Brigadoon" for ideas vanished immediately and the Supreme Court of California embarked on a series of important cases, which among other things, deny property protection for mere ideas.²⁴

Although the California Court stated that "the Legislature has abrogated the rule of protectibility of an idea . . . ,"²⁵ it may not have meant what it said. In the subsequent landmark case of *Desny v. Wilder*,²⁶ the same court concluded that a three page synopsis for a movie may be protectible literary property. The plaintiff, having

²⁰ 248 F.2d at 802 (1957).

²¹ Official Airlines Schedule Information Service, Inc., v. Eastern Airlines, Inc., 333 F.2d 672 (1964).

²² *Stanley v. Columbia Broadcasting System*, 35 Cal.2d 653, 221 P.2d 73, 23 A.L.R.2d 216 (1950); *Golding v. R.K.O. Pictures Inc.*, 35 Cal.2d 95 (1950).

²³ CAL. CIV. CODE § 980 (amended, Cal. Stats. 1947 ch. 1107, p. 2546, § 1); see, Note, 38 Calif. L. Rev. 337 (1950).

²⁴ *Weitzenkorn v. Lesser*, 40 Cal.2d 778, 256 P.2d 947(1953); *Kurlan v. Columbia Broadcasting Systems, Inc.*, 40 Cal.2d 799, 256 P.2d 962 (1953); *Burtis v. Universal Pictures*, 40 Cal.2d 823, 256 P.2d 933 (1953).

²⁵ *Weitzenkorn v. Lesser*, note 24 *supra*.

²⁶ 46 Cal.2d 715, 299 P.2d 257 (1956).

relied on *Weitzenkorn*, had conceded that his idea was not property capable of being plagiarized. The court suggested, nevertheless, that he should have alleged plagiarism.

Fink v. Goodson-Todman Enterprises, Ltd.,²⁷ the most recent of California's "major" idea cases, offers some grounds for optimism to victims of idea theft. The plaintiff, a writer, submitted a detailed proposal for a television series called "The Coward," to the defendant-producers. Five years after having rejected the plaintiff's idea as "unsaleable," the defendants came out with the highly successful television program entitled "Branded." The basic theme and production techniques of the two works were similar; the defendants had changed only the setting—from contemporary Greenwich Village to the wild west.

The plaintiff wisely left no stones unturned in his pleadings. His appeal alleged breach of express and implied contracts, breach of fiduciary obligation, infringement of common law copyright and fraud. After extensively analyzing the story similarities and acknowledging that judicial attempts to distinguish an idea from its expression are perforce arbitrary,²⁸ the court held that the plaintiff's television format was property sufficiently concrete and novel as to warrant protection under common law copyright infringement and breach of fiduciary duty theories. As noted by Professor Nimmer,²⁹ the property theory was undoubtedly based on facts amounting to an implied-in-fact contract.

Quasi-Contract

Many plaintiff's lawyers in idea cases, realizing that "black letter law" is against them, have turned to the equitable doctrine of quasi-contract.

"Quasi-contracts, unlike true contracts, are not based on the apparent intention of the parties to undertake the performances in question, nor are they promises. They are obligations created by law for reasons of justice. . . . ' Quasi-contractual recovery is based upon benefit accepted or derived for which the law implies an obligation to pay."³⁰ "The exact terms of the promise that is

²⁷ 9 Cal. App. 3d 996, 88 Cal. 679 (1970).

²⁸ See 9 Cal. App. 3d at 1014-16, 88 Cal. Rptr. at 693-95 (1970). For an imaginative discourse on exactly what is meant by the word "idea," see Libbot, "Round the Prickly Pear: The Idea=Expression Fallacy in a Mass Communications World." 14 U.C.L.A. L. Rev. 735, 737-43 (1967).

²⁹ NIMMER, 72 (Supp. 1975).

³⁰ *Weitzenkorn v. Lesser*, 40 Cal.2d 778, 794, 256 P.2d 947, 959 (1953).

'implied' must frequently be determined by what equity and morality appear to require after the parties have come into conflict."³¹

Ostensibly, the theory of contracts implied-in-law described above would seem to provide victims of idea-theft with an end-run around the stumbling block of the non-copyrightability of ideas. Most courts, however, have vitiated the theory by resting their analysis not upon "*benefits conferred*," but upon "*property used*."

Typifying the earlier-mentioned judicial distaste for the notion of ideas as protectible property, the court in *Donahue v. Ziv Television Programs, Inc.*, stated: "The Law will not imply a promise, never made expressly or impliedly, to pay for something which the defendant can have for the taking."³²

That this unwarranted fixation on "property" has proven fatal to the quasi-contract theory in a number of idea cases, is fairly obvious from the following recent dicta of the California Court of Appeals:

The existence of a contract implied-in-law depends on whether a defendant has used for his benefit any *property* belonging to the plaintiff. (Emphasis in original.) [Since] an idea, as opposed to its expression, is not property, an action for its misuse does not lie.³³

As support for this proposition, the Court of Appeals cites *Weitzenkorn v. Lesser*,³⁴ which in turn cites a number of predominantly New York cases for the same proposition. Nowhere in these earlier cases, however, do the courts mention "property" as a *sine qua non* to quasi-contractual recovery.

In *Thomas v. R.J. Reynolds Tobacco Co.*,³⁵ for example, the court said that an idea which is "concrete in form" and "novel and new," is protectible by a contract implied-in-law. *Bailey v. Haberle Congress Brewing Co.*, also relied on by *Weitzenkorn*, states:

The rule is that an abstract idea, if not covered by an express contract, can be the subject of private property only when embodied in concrete form, . . . novel and original, and . . . disclosed under circumstances indicating that compensation was expected.³⁶

³¹ Corbin, CORBIN ON CONTRACTS § 19 (one vol. ed. 1952).

³² 54 Cal. Rptr. 130, 137, 245 Cal. App. 2d 593, 615 (1966); *Desny v. Wilder*, 299 P.2d 257, 46 Cal. 2d 715 (1956).

³³ *Davies v. Krasna*, 111 Cal. Rptr. 18, 21 (1973); cf. *Colvig v. K.S.F.O.*, 36 Cal. Rptr. 701, 224 Cal. App. 2d 357, 140 U.S.P.Q. 680 (1964), where a radio show format was considered broad enough to sustain statutory or common law copyright as the "expression" of an idea, and was therefore literary "property" capable of being the subject of a quasi-contract.

³⁴ Note 30, *supra*.

³⁵ 350 Pa. 262, 267 (1944).

³⁶ 193 Misc. 723, 724(1948).

Similarly, *Alberts v. Remington Rand, Inc.*,³⁷ stands only for the proposition that quasi-contractual recovery may be had if the plaintiff's idea is reduced to concrete form prior to disclosure. This court went to cite the case of *Larkin v. Penna. R.R. Co.* [125 Misc. 238 (1925)] as a proper use of quasi-contract. There, "it was pointed out that the plaintiff could recover in the absence of an express contract *only if the defendant had appropriated the essential features of written plans submitted by the plaintiff* in such a manner as to substantially copy the same."³⁸ (Emphasis supplied.)

The point is that the California court's prohibition against ideas being the subject of quasi-contract is a wholly unsupported and unwarranted anomaly, necessitated only for consistence with Section 980.

In fact, the proper analysis of quasi-contract places stress not on the notion of "property," but on the concept of "unjust enrichment." The anomalous treatment given the idea cases is highlighted by the fact that the same California court states the law differently in non-idea cases:

Ordinarily, the law will imply a promise to pay for goods and services furnished by one party to another whenever it is necessary to do so to prevent unjust enrichment, i.e., when the person to whom the goods or services were furnished received a substantial benefit therefrom and it would be unconscionable to permit him to retain the benefit without paying for its reasonable value.³⁹

Under this more conventional formulation of the quasi-contract theory, many plaintiffs who trustingly submitted ideas to big Hollywood producers in expectation of remuneration, would more likely receive a reasonable fair share of the producers' frequently "Midas-like" profits.

The above California cases would seem to be an anomalous perversion of quasi-contract theory, caused by Section 980 of the California Civil Code. As previously noted,⁴⁰ Section 980 was amended to expressly divest ideas—as opposed to their expression—of their status as protectible property. The California courts have therefore been required by an overriding legislative imperative, to minimize legal protection for "mere ideas." Nevertheless, it is submitted that because the California judiciary is bound by a *state*

³⁷ 175 Misc. 486 (1940).

³⁸ *Id.* at 488.

³⁹ *Harold A. Newman Co., Inc. v. Nero*, 107 Cal. Rptr. 464, 468, 31 Cal. App. 3d 490, 497 (1973).

⁴⁰ Notes 22-26, *supra* and accompanying text.

legislative decision that ideas are not protectible property, those cases in which ideas have consequently been denied quasi-contractual protection, should not be followed by the courts of states without such an expressly restrictive statute.

In spite of the fact that the California property requirement is largely derived from New York case law, the case of *Galanis v. Procter and Gamble Corp.*,⁴¹ suggests that New York itself has no such rule. The plaintiff in *Galanis* alleged that she wrote to the president of the defendant corporation to offer the idea of producing a blue-colored laundry soap called "Blue." When the defendant corporation came out with "Blue Cheer" detergent a year later, the plaintiff sued for breach of contract and one million dollars in damages.

The court noted that the plaintiff's unsolicited idea was not protected by copyright, patent or express contract. "However," wrote Judge Molinari, "the courts have in certain cases recognized that *even if a plaintiff has no property right in an idea*, and even though no contract for the sale or use of such idea has been established, nevertheless the defendant may be held liable in quantum meruit on the theory of unjust enrichment, where the defendant utilized a concrete and novel idea submitted by the plaintiff."⁴² (Emphasis added.)

To add to the confusion, the California Court of Appeals has recently suggested in a timorous footnote, that an idea need not be protectible property in order to be the subject of a quasi-contract, if the idea was disclosed in confidence. The added factor of breach of a confidential relationship was seen by the court as a necessary limitation on the "dangerous" tendency of quasi-contracts to "reach and render liable persons other than the limited number who may have consented to a contractual relationship."⁴³

Moreover, this same case indicates that California courts—in spite of the Civil Code's dictates—may be willing to stretch to find "protectible property" in ideas. The *Fink* court noted that although common law copyright protection is not accorded to mere ideas, "just because the element of 'originality' is small within the expanse of 'free ideas,' . . . it cannot be said as a matter of law that it is not protectible."⁴⁴

⁴¹ 114 U.S.P.Q. 275 (1957). See also, *Matarese v. Moore-McCormack Lines, Inc.*, 158 F.2d 631, 71 U.S.P.Q. 311 (1946).

⁴² 114 U.S.P.Q. at 277.

⁴³ *Fink v. Goodson-Todman Enterprises, Ltd.*, 88 Cal. Rptr. 679, 690, 9 Cal. App. 3d 996, 1010 (1970).

⁴⁴ 88 Cal. Rptr. at 693, 9 Cal. App. 3d at 1014.

Even where "protectible property" is required and the plaintiff's idea does not meet the judicial snuff,⁴⁵ courts may be willing to side-step the property "requirement" for equitable reasons. Thus, in *Davies v. Krasna*,⁴⁶ where the trial court's labeling of the case as quasi-contractual would have proven fatal to the plaintiff's cause (due to lack of protectible property), the Court of Appeals munificently held that the plaintiff's cause of action was in reality one for breach of confidential relationship constituting a constructive fraud. By so holding, the Court of Appeals also allowed the plaintiff to avoid a statute of limitations problem that would have otherwise barred his suit.

Unfortunately, plaintiff's luck did not hold out forever. After sixteen years of litigation and three favorable rulings in the Court of Appeals, his action was held to be barred by the statute of limitations at the state supreme court level.

The final decision in *Davies v. Krasna* is a major set-back for plaintiffs in idea cases. In an exceedingly tortuous opinion, California's highest court ruled that a transaction "between men engaged in the business of selling and exploiting ideas for movies," does not give rise to a "confidential relationship."⁴⁷ This finding supplants the more favorable statement by the Court of Appeals that "courts tend to find a confidential relationship when the parties deal on unequal terms, resulting in one party reposing trust and confidence in the other's good faith."⁴⁸

The California Supreme Court also expressly refused to recognize the legitimacy of a cause of action for breach of confidence in idea cases. Even though the Court apologized for taking this "intellectually unsatisfying" course, the outcome of *Davies* suggests that when the Court does confront the issue, it will decline to "create a new genre of liability."⁴⁹

If the plaintiff in *Davies* had not been barred by a two year statute of limitations, he would have sought to establish a constructive trust on the profits derived from the commercial exploitation of his idea by the defendant. Conceptually, the "chief difference" between a quasi-contractual obligation and a constructive trust is:

⁴⁵ See NIMMER § 173 *et seq.* for a description of the various judicial snuff boxes.

⁴⁶ 111 Cal. Rptr. 18 (Ct. App. 1973); *rev'd* 121 Cal. Rptr. 705, 535, P.2d 1161 (1975).

⁴⁷ 121 Cal. Rptr. at 711, 535 P.2d at 1167.

⁴⁸ 54 Cal. Rptr. 37, 44-45 (1966).

⁴⁹ 121 Cal. Rptr. at 709, 535 P.2d at 1165 (1975). Query: is breach of confidence liability in idea cases really "new"? See *Blaustein v. Burton*, 88 Cal. Rptr. 310, 9 Cal. App. 3d 161 (1970); *Minnear v. Tors*, 72 Cal. Rptr. 287 (1970).

. . . that the plaintiff in bringing an action to enforce a quasi-contractual obligation seeks to obtain a judgment imposing merely personal liability upon the defendant to pay a sum of money, whereas the plaintiff in bringing suit to enforce a constructive trust seeks to recover specific property.⁵⁰

The distinction is most important in determining the proper amount of damages. Where quasi-contract is the basis for the plaintiff's suit, the plaintiff should recover "the value of the idea to the defendant. Where the suit presented is for equitable relief from an abuse of confidence reposed, profits can be recovered as such."⁵¹ Professor Nimmer notes that since an action for breach of a confidential relationship is grounded in equity, courts "may be willing to grant an injunction, an accounting and exemplary damages"⁵²

Theory of Implied-in-Fact Contract

One commentator has realistically appraised the implied-in-fact contractual theory as "a compromise between law and equity, permitting recovery in those instances where not to do so seems a blatant violation of moral, if not legal, obligations."⁵³ This result may be explained, at least in part, by a long-standing judicial confusion of implied-in-fact contracts with implied-in-law contracts. As previously noted, contracts implied-in-law are not "true" contracts; rather, they are "quasi"-contracts which arise from equitable considerations—regardless of the absence of formal contractual requisites.

Implied-in-fact contracts are, by contrast, "true" contracts based on the traditional "meeting of minds." Conceptually, they are made by the parties (as opposed to being implied by a court), and the contractual trappings of offer, acceptance, consideration, etc., must all be shown for recovery. Moreover, "[t]he only distinction between an implied-in-fact contract and an express contract is that, in the former, the promise is not expressed in words but is implied

⁵⁰ RESTATEMENT OF RESTITUTION § 160, comment (a) at 642 (1937).

⁵¹ Douthwaite, "The Tortfeasor's Profits—A Brief Survey," 19 Hastings L.J. 1071, 1082 (1968); and see Booth v. Stutz Motor Co., 24 F.2d 415 (1928), and 56 F.2d 962 (1932).

⁵² NIMMER, 747-48. The theory of Breach of Confidence in idea cases is further discussed in Havighurst, "The Right to Compensation for an Idea," 49 N.W. L. Rev. 295, 311-12 (1954); Nimmer, "The Law of Ideas," 27 So. Cal. L. Rev. 119, 138 (1954); and NIMMER § 171.

⁵³ Note, "A Conceptual Analysis of Idea Appropriation," 2 Memphis State L. Rev. 67, 73 (1972).

from the promisor's conduct,"⁵⁴ or "inferred from circumstantial evidence."⁵⁵

For the plaintiff in an idea case, the best thing about a contractual theory is that it will protect abstract ideas. Whether the contract is implied-in-fact or express, the plaintiff's idea will be protected even if it is not copyrightable,⁵⁶ not protectible property,⁵⁷ and not concrete or novel.⁵⁸

That the plaintiff need not wade into the morass of *idea vs. expression* clears the path to recovery significantly. Justice Traynor has explained why this is proper:

The policy that precludes protection of an abstract idea by copyright does not prevent its protection by contract. Even though an idea is not property subject to exclusive ownership, its disclosure may be of substantial benefit to the person to whom it is disclosed. That disclosure may therefore be consideration for a promise to pay. (Citations omitted.) Unlike a copyright, a contract creates no monopoly; it is effective only between the contracting parties; it does not withdraw the idea from general circulation. Any person not a party to the contract is free to use the idea without restriction.⁵⁹

It is proving a consensual agreement by circumstantial evidence that most of the problems and litigation lie. The California Supreme Court's most recent enunciation of the elements of implied-in-fact contracts came in the landmark case of *Desny v. Wilder* from which the following important propositions may be distilled:

1. The law will not imply a promise to pay for an idea from the mere facts that the idea has been conveyed, is valuable, and has been used for profit; this is true even though the conveyance has

⁵⁴ Weitzenkorn v. Lesser, 40 Cal.2d 778, 256 P.2d 947 (1953).

⁵⁵ Desny v. Wilder, 46 Cal.2d 715, 299 P.2d 257 (1956).

⁵⁶ Fink v. Goodson-Todman Enterprises, Ltd., 9 Cal. App. 3d 1009, 88 Cal. Rptr. 679 (1970); Blaustein v. Burton, 9 Cal. App. 3d 16, 88 Cal. Rptr. 319 (1970).

⁵⁷ Ware v. Columbia Broadcasting System, Inc., 253 Cal. App. 2d 489, 61 Cal. Rptr. 590 (1967); Donahue v. Ziv Television Programs, 245 Cal. App. 2d 593, 54 Cal. Rptr. 130 (1966).

⁵⁸ Chandler v. Roach, 156 Cal. App. 2d 435, 319 P.2d 776 (1957); Minniear v. Tors, 72 Cal. Rptr. 287 (1968); Land v. Jerry Lewis Productions, Inc., 140 U.S.P.Q. 351 (1964), "Producers may become obligated to pay for commonplace ideas, no matter how tired, threadbare, faded and shopworn the ideas, if they have conducted themselves in such a manner that a promise to pay can be inferred," at 352. Courts outside of California, however, may still regard novelty and concreteness as a sine qua non to any type of protection (even contractual) for ideas. Cf. Vernick v. N.W. Ayer and Son, Inc., 179 U.S.P.Q. 847 (1973). See NIMMER §§ 169.1 and 173.

⁵⁹ Dissent in Stanley v. Columbia Broadcasting System, Inc., 35 Cal. 2d 653, 674, 221 P.2d 73, 85 (1950). Traynor's dissent is now the majority rule in California.

been made with the hope or expectation that some obligation will ensue.⁶⁰

2. The plaintiff's act of disclosing his idea is sufficient consideration for the defendant's promise to pay.⁶¹

3. a. If, prior to learning the idea, the defendant knows or should reasonably know that the offeror of the idea expects reasonable compensation if his idea is used,⁶² (the *bargain*) and,

b. having the opportunity to reject or stop "the proffered conveyance of the idea—before it is conveyed,"⁶³ voluntarily accepts (i.e., does not reject) disclosure, the defendant has *accepted*.⁶⁴

4. Even if the plaintiff disclosed his idea without communicating his expectation of payment upon use, or without giving the defendant a chance to reject disclosure, the defendant's subsequent express promise to pay creates a valid contract.⁶⁵

In summary, the *Desny* analysis⁶⁶ provides that the purveyor of an idea can set up an implied-in-fact contract by not revealing his idea until he has made it clear to the prospective buyer that payment is expected if the idea is used, and by giving the buyer a reasonable chance to accept or reject the offer of disclosure.

Professor Nimmer has further criticized the *Desny* opinion on the grounds that it creates in the buyer (producer) an affirmative duty to reject the offer of disclosure—or be bound. Nimmer reasons that:

A literary idea is as much public property as is a park bench, and . . . failure to reject does not appear to be sufficient conduct to imply a promise to pay for that which is otherwise public property. . . . This goes beyond the holdings (in 1956) of most idea cases and

⁶⁰ 46 Cal.2d at 739, 299 P.2d at 270 (1956). Depending on the nature of the idea and the court, an action in quasi-contract might be successful under these circumstances.

⁶¹ *Id.*

⁶² *Id.* Justice Schauer's memorable warning was that "The idea man who blurts out his idea without having first made his bargain has no one but himself to blame for the loss of his bargaining power."

⁶³ *Id.* "If the recipient has no such opportunity (as where the idea is disclosed in a unilateral announcement by telephone or in a letter which gives no outer indication of a submission) then . . . no contract results" M. Nimmer, "Copyright 1956: Recent Trends in the Law of Artistic Property," 4 U.C.L.A. L. Rev. 323, 325 (1957).

⁶⁴ "Unless the offeree has opportunity to reject, he cannot be said to accept." 46 Cal.2d at 739, 299 P.2d at 270.

⁶⁵ *Id.* Professor Nimmer did not like the court's reliance on "past consideration." He complained immediately that ". . . the *Desny* moral obligation doctrine" has "completely obliterated" . . . "the legal dams against the ambiguous sea of morality." (In addition to his professorial role, Nimmer is attorney for Paramount Pictures Corp.)

⁶⁶ See *Chandler v. Roach*, 156 Cal. App. 2d 435, 440-41 319 P.2d 776, 780 (1957).

seems to impose a considerable burden on motion picture and television companies⁶⁷

As noted at the outset of this section, the judicial application of the implied-in-fact contract doctrine has been steeped in equity—or soaked in the “ambiguous sea of morality” as Mr. Nimmer would put it. Whichever you prefer, the judges are guided only by their consciences in deciding whether “the circumstances preceding and attending disclosure, together with the conduct of the offeree acting with knowledge of the circumstances, show a promise of the type usually referred to as ‘implied’ or ‘implied-in-fact.’”⁶⁸

Thus, dealings between parties that were no more extensive than a telephone conversation between a writer and a producer’s secretary,⁶⁹ or a chat in a soda fountain between a budding secretary and a movie star,⁷⁰ have been sufficient to create a contract implied-in-fact.

The Writer’s Guild of America position is that any time a member writer has dealings with a television or film producer who is party to the Guild’s “Minimum Basic Agreement,” the producer has impliedly contracted to pay at least the stated minimum for his use of the writer’s ideas.⁷¹ The Guild also provides a “Registration Service” “to assist members and non-members in establishing the completion date and the identity of their literary property.” For a minimal fee, the Guild will register synopses, outlines, ideas, treatments and scenarios. Conceivably, this could ease a plaintiff’s evidentiary burden in an implied-in-fact contract trial as well as psychologically legitimize his claim in the minds of jurors.⁷²

⁶⁷ Nimmer, note 63, *supra*, at 326-27. Cf. NIMMER at 715: “The theatrical producer . . . may be dependent for his business life on the procurement of ideas from other persons as well as the dressing up and portrayal of his conceptions; he may not find his own sufficient for survival.”

⁶⁸ *Desny v. Wilder*, 46 Cal.2d at 737, 299 P.2d at 270 (1956).

⁶⁹ *Id.*

⁷⁰ *Land v. Jerry Lewis Productions, Inc.*, 140 U.S.P.Q. 351 (1964). Judge Fleming, who wrote this extremely articulate and interesting opinion, cautioned that “In this State producers who discuss plots with would-be script writers, even at cocktail parties or in soda fountains, do so at their peril.” *Id.*, at 353.

⁷¹ Libbot, note 28 *op. cit. supra*, at 765. The judicial measure of damages recoverable on a contract implied-in-fact “is the amount the defendant is presumed to have contracted to pay, namely, the reasonable value of the material” *Robbins v. Frank Cooper Associates*, 19 App. Div. 2d 242, 241 N.Y.S.2d 259-261 (1963).

⁷² Aside from its “scare” value in discouraging deceitful conduct by shady producers, the efficacy of the Registration Service in idea cases is unclear.

Lest the proof of an implied-in-fact contract seem unrealistically easy to accomplish, it must be noted that traditionally, courts have been loathe to foist contractual relations on parties who have not agreed expressly. Moreover, courts have waxed especially skeptical in idea cases.

According to Justice Traynor,

It is not a reasonable assumption, however, in the absence of an express promise, or unequivocal conduct from which one can be implied, that one would obligate himself to pay for an idea that he would otherwise be free to use.⁷³

Likewise, Justice Edmonds speaking for the majority in *Weitzenkorn v. Lesser*, remarked:

It is conceivable, even though improbable, that Weitzenkorn might be able to introduce evidence tending to show that the parties entered into an express contract whereby Lesser and Lesser Productions agreed to pay for her production regardless of its protectability and no matter how slight or commonplace the portion which they used⁷⁴

Copyright scholar Bernard Kaplan has described other competing policies which further "entangle" the subject:

"On the one hand the law resists sanctioning any private preserve of ideas. On the other hand, it is bound to acknowledge that timely recognition or recall of even a well-worn idea, without detail or elaboration, may have commercial value, and therefore comports with commonly held notions of what ought to be paid for. Add to this a desire to reward initiative; a counter-desire to discourage or at least not to compel payment for mere meddlesomeness; a drive to see that an outsider, who has trouble enough making his way, shall not be treated unfairly by the producer, often a giant girded round by lawyers and release forms; a drive in the opposite direction to protect the producer against trumped-up Bardellian demands.⁷⁵

In conclusion, one can only say that these cases will continue to turn on their own facts.

Express Contracts

The final theory to be mentioned is that of express contracts. Since implied-in-fact contracts and express contracts differ only in

⁷³ Dissent in *Stanley v. Columbia Broadcasting System, Inc.*, 35 Cal. 2d at 674, 221 P.2d at 85 (1950).

⁷⁴ 40 Cal.2d at 792, 256 P.2d at 958 (1953).

⁷⁵ "Further Remarks on Compensation for Ideas in California," 46 Cal. L. Rev. 699, 714 (1958).

the methods by which they are proved,⁷⁶ the discussion in the previous section need not be duplicated. The contractual elements of bargained-for consideration and acceptance are the same for both theories.⁷⁷ Nor will the side issues of the statute of frauds⁷⁸ and federal pre-emption⁷⁹ be more than noted herein, since they have been largely resolved in favor of contractual protection.

The main reason express contracts for abstract ideas have been saved for discussion last is because they rarely exist. Those express contracts which are entered into are almost exclusively done by boiler plate "release forms." Most "establishment" producers require an idea man to sign an adhesion-like contract before submitting his idea. Typically, the writer promises not to sue in return for the producer's promise to pay a pre-stated nominal sum depending on what use, if any, is made of the writer's material.⁸⁰

Due to the unequal bargaining power of the idea submitter and the recipient, (typically producers or broadcasting networks,) these take-it-or-leave-it releases appear unconscionable.⁸¹ In *Osborne v. Boeing Airplane Co.*,⁸² the Ninth Circuit Court of Appeals reversed

⁷⁶ *Blaustein v. Burton*, 9 Cal. App. 3d 183, 88 Cal. Rptr. 319 (1970).

⁷⁷ See notes 58-65 *supra*, and accompanying text.

⁷⁸ It has been contended that a contract arising from the defendant's promise to pay if he used an idea, could not be performed in one year and is therefore barred by the statute of frauds. This argument was put to rest in *Hollywood Motion Picture Co. v. Furer*, 16 Cal.2d 184, 105 P.2d 299 (1940), and *Blaustein v. Burton*, 9 Cal. App. 3d 161, 88 Cal. Rptr. 319 (1970).

⁷⁹ Immediately after the U.S. Supreme Court announced its *Sears-Compco* and *Lear* Doctrines, it was felt that state contractual protection for uncopyrightable ideas might be jeopardized. See e.g., Davis, "Can Contractual Protection of Uncopyrighted Ideas Be Saved?" 46 L.A. Bar Bull. 245 (1971). However, the Supreme Court has since limited federal preemption to the province of patents and left the matter of copyright and protection of unpublished writings to be shared by the states. *Goldstein v. California*, 412 U.S. 546, 93 S. Ct. 2303 (1973). See also *Donahue v. United Artists*, 2 Cal. App. 3d 794, 83 Cal. Rptr. 131 (1969); *Joseph Bancroft & Sons Co., v. M. Lowenstein & Sons, Inc.*, 167 U.S.P.Q. 137 (1970); *Painton & Co., v. Bourns, Inc.*, 442 F.2d 216 (1971).

Moreover, § 301 of S. 22, the proposed Copyright Revision Bill, specifically approves of state contractual protection for ideas.

⁸⁰ For an example of a standard network release form see Lindey, *ENTERTAINMENT, PUBLISHING AND THE ARTS*, vol. 2, Form 6:G-101 at 654 (1963). See also H. Olsson, "Dreams for Sale," 23 Law And Contemp. Prob. 34, 54-59 (1958), for the release used by N.B.C. in 1958, and the reasons which necessitate its continued use. Cf. the "reverse release" suggested by Libbot, "Case in Point," *Writers Forum 2* (Writer's Guild of America, West, Inc. 1964).

⁸¹ One court has held a release "void as against public policy" because it limited the amount of damages a producer could be forced to pay for his wrongful use of submitted material. In the Matter of the Arbitration between Cayuga Productions, Inc. and Clyde Ware, unreported, No. 820062 (1963).

⁸² 309 F.2d 99, 135 U.S.P.Q. 145 (1962).

a summary judgment for the defendant, holding that as a matter of law, a company could not by written agreement, reserve the right to appropriate valuable ideas suggested by employees, without making any payment at all.

Unfortunately, the precedential value of this opinion for the purpose of invalidating entertainment industry releases is dubious. First of all, *Osborne* was a business—as opposed to “literary”—idea case. Secondly, it involved the solicitation of ideas rather than their uninvited delivery by mail. Lastly, whereas the form struck down in *Osborne* provided that ideas could be used without any payment at all, most entertainment releases promise to pay at least a nominal sum if the idea is used.

Although release forms with sweeping and unreasonable terms will continue to be struck down,⁸³ those which are not patently unfair will probably be spared the judicial axe. As one judge put it:

Since payment for ideas continues as a matter of agreement, I do not doubt that producers by appropriate contracts could provide for submission of literary properties free from any liability on their part to pay for general ideas embalmed in the literary properties under submission. Similarly, by contract those who make a profession of generating ideas, such as professional gag men, could bargain to be paid for ideas, whether the ideas were used or not.⁸⁴

As the courts increasingly go out of their way to find contracts implied-in-fact, it is ironic—although not unreasonable—that they have adopted an “all’s fair in love and war” approach to standardized release forms. However, as one anonymous writer has said, “What the Lord giveth, the Lord can taketh away.”⁸⁵

Conclusion

Although the case law varies from coast to coast and from court to court, the decisions continue to be uniformly predicated on the notion that since ideas may not be copyrighted, they are, all things being equal, “as free as the air.” Nevertheless, there is increasing judicial recognition that things are not always equal and that ideas are deserving of legal protection under certain circumstances.

To identify these circumstances is a risky proposition, because each idea case tends to turn on its own facts. It is safe to say, though, that a formalized, concrete and hence “copyrightable”

⁸³ See *Gordon v. Vincent Youmans, Inc.*, 358 F.2d 261 (1965); *Downey v. General Foods Corp.*, 37 A. D. 2d 250, 323 N.Y.S.2d 578 (1971).

⁸⁴ *Land v. Jerry Lewis Productions, Inc.*, 140 U.S.P.Q. 351, 352 (1964).

⁸⁵ *Job* 1: 21.

idea, a strong odor of unjust enrichment, an absence of officious intermeddling by the plaintiff, close, personal dealings between plaintiff and defendant, and a great disparity in the relative bargaining positions of the parties—are factors which contribute significantly to the likelihood of legal success for plaintiffs in idea cases.

At present, it appears that legal dogma is grudgingly giving way to increased legal protection for abstract ideas. This trend has been made possible by lawyers who have been at least as imaginative as their clients in advancing alternative theories of recovery. This trend must continue because “. . .for every wrong there should be an adequate remedy.”⁸⁶

⁸⁶ Justice Cobey writing for the majority in *Davies v. Krasna*, 111 Cal. Rptr. 18 at 23 (1973).

The Patent-Antitrust Law Interface: How Should It Be Defined?

THEODORE L. BOWES*

Introduction

There is an area of concern, growing more intense each year, which involves the interface between patent and antitrust law. That there must be an interface surprises no one. The antitrust laws, including the common law of restraints which preceded the Sherman and Clayton Acts, are based generally on the thesis that the competitive process for allocating resources is productive of the most good for the most people. In other words, the maximization of competition is generally in the public interest. There are areas, however, where a degree of monopoly or exclusivity appears to be desirable. The ICC, the CAB, and the public utility concepts represent only a few exceptions. Another is the patent system.

So, acknowledging that there are exceptions, one acknowledges the corollary existence of an interface—an area where two systems adjoin and may interact to some extent. The problem becomes one

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of suitably defining the line from which each operates. One author, referring to the dividing line, wrote, "But to draw that line, aye . . . there's the rub."¹

Having established the presence of the interface, it follows that events, philosophies, biases—in short, human nature—influences the development of that interface. It may be constructive to study the friction points of this interface.

The Problem

The pulling and pushing along the interface has resulted in an erosion of the patent right, a significant reduction of the things a patent owner can do under the guise of his patent protection, and, to the extent this is true, a diminution of the value of patents in our economy.² The problem surfaces largely in the courts in two

¹ Kidwell, "Patent-Right Interchange and Antitrust Policy: Defining the Interface." 43 Univ. of Colorado Law Rev. 360, 1972. Kidwell also wrote that "There exists, as there must, a tension between the patent and copyright laws and the antitrust laws."

² The following cases comprise a series resulting in erosion of the indicated right:

Price restrictions. *Bauer & Co. v. O'Donnell*, 229 U.S. 1 (1913).

Tie-ins. *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502 (1917).

Different royalty according to source. *Barber Asphalt Corp. v. La Fero Grecco Construction Co.*, 116 F.2d 211 (1940).

Implied Licenses. *American Lecithin v. Warfield Co.*, 105 F.2d 207 (1939) and 42 F. Supp. 270 (1941).

Contributory infringement. *Mercoird Corp. v. Mid-Continental Investment Co.*, 320 U.S. 653 (1969).

Licensor estoppel. *Lear v. Adkins* 394 U.S. 653 (1969).

Free-cross license. *U.S. v. AMA*, 307 F. Supp. 617 (1969).

Grant back plus patent pool. *U.S. v. Associated Patents*, 134 F. Supp. 74 (1958).

Resale prices. *U.S. v. Univis Lens Co.*, 316 U.S. 421 (1942).

Mutual agreements. *U.S. v. Masonite Corp.* 316 U.S. 265 (1942).

Cross-license with price restrictions. *U.S. v. Line Material* 333 U.S. 287 (1948).

Industry network to stabilize prices. *U.S. v. United States Gypsum* 333 U.S. 364 (1948).

Compulsory package licensing. *American Securit Co., v. Shatterproof Glass Corp.*, 268 F.2d 769 (1959).

Interference settlements. *U.S. v. Singer Mfg. Co.* 374 U.S. 174 (1963).

Foreign patent pool. *Hazeltine Corp. v. Zenith* 239 F. Supp. 51 (1963).

Post expiration royalties. *Brulotte v. Thys* 379 U.S. 29 (1964).

Different royalty rates. *FTC v. La Peyre* 366 F.2d 117 (1966).

Royalty on entire machine. *Kearney & Trecker v. Giddings & Lewis*, 171 U.S. P.Q. 650 (1971).

In rem invalidity. *University of Illinois v. Blonder-Tongue Lab., Inc.* 175 U.S.P.Q. 1 (1972).

Federal pre-emption. *Sears, Roebuck and Co. v. Stiffel*, 376 U.S. 225 (1964) and

situations; 1) the validity of litigated patents, and 2) the legality of various licensing practices.

The Validity Question

The impact of antitrust on the validity of patents is indirect. To go back in time, the Constitution of this country gave the Congress the "Power . . . to promote the . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their respective . . . Discoveries."³ In implementing that power, the Congress has enacted a series of statutes, the most recent in 1952.⁴

By statute, an invention is patentable only if it falls within certain classes of invention, i.e., process, machine, manufacture, composition of matter, or improvement thereof, and is new, useful, and unobvious⁵ to those having ordinary skill in the art in which the invention finds applicability.

The "not obvious" condition is, of course, a difficult test, an objective test, and skilled trial counsel as well as judges can and do differ on their approaches to this necessary determination. Because of the nature of the decision required of our courts when patentability is an issue, the circuit courts of appeals for the years 1968-72 held invalid 70% of the patents litigated in those courts.⁶

One theory for patent invalidity is that judges tend to look upon patents as monopolies and since monopolies are bad, patents are bad, and at best, should be strictly construed.⁷ A federal judge has

Compco v. Daybrite, 376 U.S. 235 (1964). *Cf. Kewanee v. Bicron et al.* 416 U.S. 470 (1974).

New or different function required in combination inventions. *Sakraida v. Ag Pro.* — U.S.P.Q. — (1976).

³ U.S. Const., Art. I, § 8.

⁴ 35 U.S.C., Patents

⁵ The exactness of this statement was thrown into doubt by Mr. Justice Brennan's opinion in *Sakraida v. Ag Pro., Inc.*, decided on April 20, 1976. The opinion seems to add still another requirement, i.e., a new or different function, in testing the validity of combination patents.

⁶ "Patent Office Study of Court Determinations of Validity/Invalidity, 1968-72," Patent, Trademark & Copyright Journal, the Bureau of National Affairs, Inc., Washington, D.C., September 13, 1973. The same report found that inclusion of unappealed decisions of the district courts and the Court of Claims lowered the invalidity rate to 49%.

⁷ Patent Law Perspectives (1972 Developments, Section B(2) (a), Note 29. "It is small wonder the courts demean the patent grant since the Supreme Court has led the way by drawing the following doubly defective syllogism: (1) all monopolies are odious and in derogation of the public interest, (2) patents are monopolies; (3) therefore, all patents are odious and in derogation of the public interest. This syllogism is fatally flawed since Congress as an exercise of its legislative function, has seen fit to provide for the granting of patents to encourage the making of

said that “. . . monopolies—even those conferred by patents—are not viewed with favor.”⁸ Hence, to the extent that the courts analyze patents from an antitrust point of view, the patent owner is at a disadvantage.

The ultimate answer in validity situations almost always lies in anticipation or obviousness, and involves to some degree the individual prejudices of judges and courts.⁹ But since the interface is not directly involved, this paper does not further discuss patentability.

Licensing Law

The Courts

The direct impact of antitrust philosophy appears clearly in court decisions involving license grant limitations and restrictions and, more specifically, whether certain license provisions are permissible or violate the antitrust laws.¹⁰

Through the first decade of this century, the courts were very liberal in their analyses of patent contract provisions. To go back in time, the Sherman Act became law in 1890. During Senate consideration prior to passage of that legislation, its effect on the patent system was raised. Senator Sherman stated that “a limited monopoly secured by a patent right is an admitted exception, for this is the only way an inventor can be paid for his invention.”¹¹ Thus, the interface at that time recognized patents as belonging in a special category. That feeling for the public benefit resulting from the patent grant led to the establishment of a patent rule of reason to be distinguished from the antitrust rule of reason enumerated decades later.

The Button Fastener¹² case makes a good start for study because it was tried five years after enactment of the Sherman Act and recognized the monopoly aspects of the controversy. A tie-in was involved; defendant argued that the agreement operated to create

inventions. It ill behooves the courts to arrogate to themselves the view of the public interest contrary to the legislative judgment of the Congress.”

⁸ The Laitram Corporation v. Deepsouth Packing Co., Inc., 165 U.S.P.Q. 147 (1970) (Rubin, Jr.).

⁹ The interface, or rather how any particular judge reacts to it, may effect the application of the tests of patentability.

¹⁰ The cases identified in *fn.* 2 are directed for the most part to patent license situations. That list, of course, is exemplary and not exhaustive.

¹¹ 21 Cong. Rec. 2457.

¹² Heaton-Peninsular Button Fastener Co. v. Eureka Speciality Co., 77 F. 288 (1896).

a monopoly in unpatented staples. The defense was based on public policy rather than the Sherman Act which suggests that the defendant did not consider "Sherman" to extend to patent contract provisions. The Court made no reference to the Sherman Act but took the position that the exclusive market position was a legitimate one no matter what effect on competitors, and, if effected, the patent owner should be permitted to allow others to use it under prescribed conditions such as tie-ins. The Court felt that tie-ins provided a form of competition because suppliers of unpatented materials or parts will not cut off from buyers for other end uses, and, perhaps most important, a patent owner's superior market position resulted from the competitive superiority of the subject of the patents.

The above case was followed by *Bement v. National Harrow*,¹³ which may be important because of its enunciation of a patent rule of reason.¹⁴ In this case, the defendant relied squarely on the Sherman Act. The court found no violation of the Sherman Act and the author of the court's opinion, Mr. Justice Peckham, wrote that with few exceptions, the object of the patent law is monopolistic in nature and all conditions will be upheld, even if stated conditions tend to maintain the monopoly or fix prices, unless they are inherently illegal.

Bement was decided on a 6-0 vote, three justices not participating in the hearing or decision. The apparent unanimity at the Supreme Court level began to change as evidenced by the 5-3 decision in *Henry v. Dick*,¹⁵ decided in 1911 (twenty-one years after passage of the Sherman Act). This case involved a tie-in, the sale of mimeograph equipment being tied to the furnishing of unpatented materials including ink and stencils, and the fact that patentee's profit came solely from the sale of supplies.

Mr. Justice Lurton, writing the majority opinion in *Dick*, raised the question whether the patent right should be construed narrowly (because "lacking in those moral elements which appeal to the normal man") or as "a monopoly granted to subserve a broad public policy, by which large ends are to be attained, and therefore

¹³ *Bement & Sons v. National Harrow Co.*, 186 U.S. 1058 (1902).

¹⁴ *Op cit.* The Court said that the Sherman Act "clearly does not refer to that kind of a restraint of interstate commerce which may arise from reasonable and legal conditions imposed upon the assignee or licensee of a patent by the owner thereof, restricting the terms upon which the article may be used and the price to be demanded therefor. Such a construction of the Act, we have no doubt, was never contemplated by its framer."

¹⁵ *Sidney Henry, et al. v. A. B. Dick Co.*, 224 U.S. 1 (1911).

to be construed so as to give effect to a wise and beneficial purpose." The court decided on the latter approach and the opinion called attention to the fact that the law contained no restraints on license restrictions.

In view of the strong dissent authored by Mr. Chief Justice White and supported by Mr. Justices Hughes and Lamar, we must believe that the issue was thoroughly considered on both sides. At the heart of the minority opinion was the extension-of-monopoly argument, i.e., that a tie-in extends the monopoly of a patent to articles or materials not covered by the patent. The majority met this argument squarely and from the opinion one can conclude that the majority felt that tie-ins, at least the kind involved in the case, do not foreclose old markets and hence do not take anything away from suppliers of such pre-existing markets; the old market is untouched. Rather, the license condition, i.e., the tie-in, created a *new* market. It *expanded* the market for the tied product.¹⁶

A second basis in *Dick* for upholding the tie-in was that any domination attributable to a patent is dependent entirely on the extent to which the public accepts the new article so that the growth of the new market is due to the competitive superiority of the article embodying the subject of the patent and not the tie-in.

A third significant position was identified by Justice Lurton's explanation that not all dominations violate the laws.

Finally, the majority felt that tie-ins can be useful by serving as metering devices to enable maximization of profits and can serve the interests, not only of patent owners, but also customers who buy the product.

The weakness in the minority opinion is that no attempt was made to explain how monopoly can be extended by tie-ins nor why profit maximization and economic efficiency or competitive superiority are not adequate defenses.

Whatever the logic may be, Mr. Justice White wrote the majority opinion in the Motion Picture Patents case¹⁷ and held illegal the tie-in in that fact situation. Tie-ins have been suspect ever since and have been declared per se violation of the Sherman Act, although some tie-ins have been held proper.¹⁸ Again, however, the support-

¹⁶ For a thorough discussion of this topic, see Bowman, Patent and Antitrust Law, University of Chicago Press, 1973.

¹⁷ Motion Picture Patents Company v. Universal Film Manufacturing Co., 243 U.S. 871 (1917).

¹⁸ See *Electric Pipe v. Fluid Systems, Inc.*, 109 U.S.P.Q. 24 (1956) and *U.S. v. Jerrold Electronics*, 187 F. Supp. 545, 556. (1960), affirmed *per curiam*, 356 U.S. 567 (1961).

ers of illegality assumed the monopoly extension aspect and made no attempt to demonstrate that result. *Motion Pictures* may have been foreshadowed by *Bauer v. O'Donnell*¹⁹ wherein the majority (5-4) disapproved resale price maintenance of patented products.

The rule of reason test referred to in connection with *Bement* was crystallized and expressly adopted in *General Electric*.²⁰ The opinion of the court stated that a patent owner may license others with any condition "normally and reasonably adapted to secure the pecuniary reward" made possible by the patent. The Department of Justice has tried to overturn the patent rule of reason²¹ but without success as of this writing.²² Therefore, as a matter of legal theory, there is a special rule of reason applicable to patent license situations.

The Government

The heat at the interface has been noticeable recently in the Congress, the Nixon and Ford administrations, and the Department of Justice.

The Congress. The Subcommittee on Patents, Trademarks and Copyrights of the Committee on the Judiciary of the U.S. Senate, chaired by Senator John L. McClellan, has studied the patent system for a number of years and has actively considered "reform" legislation since the report of a President's Commission.²³ One of the Commission's recommendations dealt with licensing.²⁴ The

¹⁹ *Bauer v. O'Donnell*, 229 U.S. 1 (1913).

²⁰ *U.S. v. General Electric Co.*, 272 U.S. 476 (1926).

²¹ In a memorandum submitted to the Senate's Subcommittee on Patents, Trademarks and Copyrights, it was stated that "the fact that the Department of Justice . . . has sought for over 30 years to overturn the Supreme Court decision in *United States v. General Electric Co.* . . . is widely known . . ." Hearings, May 13, 1971, page 493.

²² *U.S. v. Huck Co.*, 382 U.S. 197 (1965). The rule was upheld on a 4-4 vote.

²³ Report of the President's Commission on the Patent System, 1966.

²⁴ Commission Report. Recommendation XXII reads as follows: "The licensable nature of the rights granted by a patent should be clarified by specifically stating in the patent statute that: (1) applications for patents, or any interests therein may be licensed in the whole, or in any specified part, of the field of use to which the subject matter of the claims of the patent are directly applicable, and (2) a patent owner shall not be deemed guilty of patent misuse merely because he agreed to a contractual provision or imposed a condition on a licensee, which has (a) a direct relation to the disclosure and claims of the patent, and (b) the performance of which is reasonable under the circumstances to secure to the patent owner the full-benefit of his invention and patent grant. This recommendation is intended to make clear that the 'rule of reason' shall constitute the guideline for determining patent misuse."

entire bill was defeated in subcommittee by a 3-2 vote when Senator Fong joined Senators Hart and Burdick, with Senators McClellan and Scott favoring the bill.²⁵ Senator Fong's vote is understood to have been based on indecision concerning the relationships between the license law language and the antitrust laws.

In 1976, the Senate passed S. 2255.²⁶ No amendments or revisions relating to licensing were included. In the subcommittee, Senators Hart, Burdick and Scott supported the legislation and opposed inclusion of language designed to clarify the dividing line between patent and antitrust fields on antitrust grounds.

The Department of Justice. The heart of the friction at the interface may be the attitude of the Antitrust Division of the Department of Justice and, specifically, the Patent Unit of that Division. That lawyers for these government units are antitrust oriented is not surprising but the degree to which their views have been accepted by the present administration and majorities of the Subcommittee and the full Judiciary Committee, as well as the Courts, may be.

It can be, and has been, argued that the antitrust and patent laws are complimentary and, hence, compatible. Both were designed to benefit the public.²⁷ A Department of Justice official has written to that effect.²⁸ No disagreement is noted to this point. However, to state the agreement is to highlight the disagreement. The statement does nothing to define the dividing line between the two fields of law. Department of Justice spokesmen make clear their belief that the patent right is supreme or operable apart from antitrust only so long as the patent owner holds the patent to himself and does not license others. Any license transfers the test from consideration of the scope of the patent to the field of antitrust law.²⁹ A license agreement is just another contract and involves only the antitrust laws (insofar as this study is concerned).

²⁵ See published Hearings before the Subcommittee May 11 and 12, 1971. The Hearings dealt largely with the so-called Scott Amendments 23 and 24 introduced on March 19, 1971, 92nd Congress, 1st Session.

²⁶ Ninth Cong., 1st Sess., introduced on July 31, 1975 by Sen. McClellan for himself, Sen. Hart and Sen. Scott. This bill was based on S. 2504, introduced May 9, 1974 by Scott at the request of the Administration.

²⁷ See, note 1 *supra*, at 364.

²⁸ Morse, "Is Antitrust Really Anti-Patent?" 55 Chicago Bar Record 155, (1974); "... both the patent laws and the antitrust laws, not only find their foundations in the United States Constitution but also have common goals and purposes. Neither body of law is necessarily supreme nor pre-eminent over the other as a means of promoting the economic welfare of society."

²⁹ Note 28, *supra*. "Like other personal property, the patentee may, subject to other existing laws, commercially exploit his right to exclude others, by for

The Administration. The importance of the Department's attitude is important enough at the litigation level; it becomes even more significant at the legislative level. Several administration supported bills have been identified. The earlier of these, S. 2504, was drafted within the executive branch of the federal government. A drafting team composed of lawyers from the Department of Commerce, mostly Patent and Trademark Office personnel, and the Department of Justice was appointed. As might be expected, a number of issues developed between the two groups (reportedly in excess of fifty). The executive branch brought in a consultant or referee in the person of Prof. Kenneth W. Dam³⁰ a specialist in antitrust law. It is reported that every issue was decided from the antitrust point of view; many observers felt that the result was an antitrust dominated bill.³¹

Officials of the White House staff and the Office of Management and Budget have withstood all efforts to modify the antitrust oriented approach to S. 2255 and have maintained full support for the bill.

Academia

Law School faculty members have divided on the interface issue. The earlier mentioned Scott amendments, aimed directly at the

example, licensing this right by contract. If he does so, he has gone one step beyond the Constitutional mandate which gives him the right to exclude others. His license, designed for the commercial exploitation of his personal property right, becomes subject to all of the general rules of the marketplace, including the common law of restraint of trade and the antitrust laws."

The head of the Patent Unit, Antitrust Division, Mr. Richard H. Stern, appears to be like minded. Following his address to the Association of Corporation Patent Counsel at the Greenbrier, White Sulphur Springs, W. Va., on May 22, 1972, the following exchange took place between the author and Mr. Stern.

Bowes. "One aspect of this, Dick, that I wish you would clarify for me. It seems to me from what you have said and what others in your unit have said . . . that the approach of the Antitrust Division is, to patent licensing, purely an antitrust approach. . . . Professor Oppenheim . . . said . . . that the first test is whether or not the practice is reasonably within the scope of the patent or patents involved. If it is, that should end the enquiry. If it is beyond that, then the test you have enunciated comes into the picture. Would you be willing to comment on that?"

Stern. ". . . With the greatest respect to Professor Oppenheim and to Ted Bowes, I submit that that statement is just plain wrong."

³⁰ Kenneth W. Dam, Executive Director, Council on Economic Policy and Professor, University of Chicago Law School.

³¹ Thomas Brennan, Chief Counsel, Senate Subcommittee on Patents, Trademarks and Copyrights has said, ". . . The problems with the bill are that it was drafted by people from Dam's office and the Antitrust Division who have no patent experience. . . ."

interface, were strongly opposed by a group of law school professors.³² Their opposition was based, at least in part, by fears of "intrusion into antitrust policy."

Quite a different point of view was represented by other law school faculty members. S. Chesterfield Oppenheim expressed concern that the Department of Justice was improperly using "antitrust Rule of Reason criteria" which "equates rather than differentiates patent policy and antitrust Rule of Reason considerations."³³ He felt that a patentee need show only that any particular

³² Announced by Professor James F. Rahl, Northwestern University, at a meeting of the Antitrust Section of the American Bar Association, Washington, D.C., April 2, 1971. Professor Harlan M. Blake of Columbia School of Law circulated a letter addressed to Senator McClellan, claimed to have been signed by 23 law school professors including Prof. Rahl. The letter is reproduced in the Patent, Trademark & Copyright Journal for April 1, 1971 beginning on page A-1. The letter began, "As professors of law whose experience and scholarship lie in the field of public control of monopoly and competition, we are deeply concerned by and strongly opposed to the proposed amendments to the Patent Reform bill (the so-called McClellan bill) limiting the application of the antitrust laws to patent licensing arrangements."

³³ Oppenheim, 15 *IDEA* 1, "The Patent-Antitrust Spectrum of Patent and Know-How License Limitations: Accommodation? Conflict? or Antitrust Supremacy?" (1971); an address before the Licensing Executive's Society, April 21, 1970, Washington, D.C.

He has been Professor of Law at George Washington and Michigan Universities and is of counsel to Howrey, Simon, Baker & Murchison, Washington, D.C. He also stated in part that "... my prime concern is that pronouncements of top officials of the Department of Justice Antitrust Division from 1965 to date reflect enforcement attitudes which tend to subordinate the Congressionally sanctioned exclusive rights of the patentee to antitrust policy considerations.

"The speeches of the present head of the Antitrust Division and his chief officials contain assurances that the patent system is not inherently at odds with the antitrust laws, although the two at time do conflict. Regrettably, these words of promise may not be fulfilled when placed in the full context of recent pronouncements of the Antitrust Division. From them emerges a fundamental question of whether there is failure to distinguish between criteria for determining whether patent license limitations are inherent in, and ancillary to, the patentee's rights of exclusion and the criteria for determining whether the license restrictions are purely contractual provisions of an antitrust nature beyond the scope of the lawful monopoly of the patent grant.

"The Antitrust Division's tests for determining whether to challenge a particular licensing provision unwarrantedly uses antitrust Rule of Reason criteria which becomes relevant only if the patentee's conduct involves the plus elements of antitrust violation. The standard applicable to the patentee as formulated in the General Electric opinion requires only a showing that the particular patent license restriction is ancillary to the pecuniary reward for the patentee's lawful rights of exclusion. Nowhere in the Patent Code or in the body of court decisions is there any support for the Antitrust Division's position that the patentee must justify a license provision as necessary to utilization of this patent. If the limitation is within the monopoly of the patent grant, it is per se lawful. Moreover, the patent grant

patent license provision is ancillary to his pecuniary reward for the patentee's lawful rights of exclusion.

Another educator felt that the *General Electric* test "is a flexible and reasonable standard that has been interpreted to permit a concern owning a patent to use sound business judgment in determining how it can most effectively obtain a good return on its patent."³⁴

Professor William F. Baxter,³⁵ presents an interesting point of view. He has said that "when a patentee brings new information into existence he should be able to take advantage of it in every way. And I would go so far as to say that if every issued patent were indisputably a valid patent and a commercially valuable patent, then there really ought to be no restrictions whatsoever on the way licensors went about exploiting those monopolies."

The Bar

The private bar, as distinguished from government and academically associated lawyers, displays similar differences of opinion.

One prominent antitrust lawyer³⁶ has opined that "the major cause of the confusion has been a conscious and sustained effort on the part of the Department of Justice to change the law, and to

does not place upon the patentee the burden of showing that he did not have available to him less restrictive alternatives more likely to foster competition than the license restriction embodied in the license agreement.

"The patent laws have different measures of permissible and wrongful conduct than the standards of the antitrust laws. . . ."

³⁴ Statement of Glen E. Weston, Professor of Antitrust and Trade Regulation Law, George Washington University Law School at hearings before the Subcommittee on Patents, Trademarks & Copyrights, May 13, 1971, Part 2, page 449. He went on to say that "[a]t the same time, I believe it was permitted the Department of Justice to challenge successfully the use of license limitations when they are used as an excuse to restrain trade unreasonably or in any attempt to cartelize an industry. . . . In my opinion, the Department of Justice formulations . . . would constitute a major change in existing law."

³⁵ Baxter, 42 Antitrust Law Journal 85, Section of Antitrust Laws, American Bar Association (1972). In Professor Baxter's printed remarks, the word "licensors" appeared as "licensees"; he has confirmed to this author that "licensors" was intended.

Professor Baxter's statement is especially interesting because he is one of the signers of the Blake letter. It may be that Baxter (and others) signed the letter because of doubts other than the proper application of the antitrust laws as, for example, the particular language of the Scott amendments as distinguished from their intended purpose.

³⁶ Day, "Where Are We Heading In United States Patent Licensing?" presented before the Seventeenth Annual Conference, The Lawyers Institute of the John Marshall Law School.

induce the courts to apply antitrust to patent licenses in exactly the same way as they do to know-how licenses where no patent is involved." Another lawyer spoke even more picturesquely to the interface.³⁷ But, not all antitrust specialists feel the way the above lawyers do. Jerrold G. Van Cise seems to apply the antitrust approach to patent license situations.³⁸

That members of the patent bar have no hesitation in defending infringement suits on antitrust grounds is too well known to require statistics or citations.

Miscellaneous

Other groups have recognized the interface problem and attempted to analyze the source of the friction.

The Bureau of National Affairs reported that "... the Antitrust Division's jaundiced eye for patent licensing restrictions has focused specifically on clauses limiting the licensee's use of the patented invention to a designated apparatus, process, or field of business activity."³⁹

Discussion

Enough has been said to picture the historical development of the patent-antitrust law interface, the nature of the friction which has developed, and examples of attitudes of involved individuals and segments of society. There has been sketched the erosion which has resulted in a relatively low valued patent right. There remains the future. One question, it seems, is whether, in the long run, the exclusive right granted to inventors is valuable to the public. Another is whether the present direction is also in the public interest.

The law, as it stands today, is that inventors may receive an

³⁷ Pollock in his introductory remarks at a meeting sponsored by the Sections of Patent, Trademark and Copyright Law and Antitrust Law, American Bar Association, August, 1973, printed in 42 *Antitrust Law Journal* (1972), said, "The aggressor, of course, has been antitrust, which has shamelessly asserted its jurisdiction over all forms of intellectual property . . ."

³⁸ Van Cise, 42 *Antitrust Law Journal* (1972). His remarks were made at the same conference identified in footnote 36. He said "The Sherman Act . . . grants no antitrust immunity to limited licenses . . . a limited license is lawful if it . . . involves no restraint . . . or . . . it involves a reasonable restraint in the sense that it is reasonably ancillary to the main purpose of a patent or a copyright grant, which is to promote the progress of science and useful arts."

³⁹ Antitrust and Trade Regulation Report (ATRR), "Patents and the Antitrust Laws," 1966.

exclusive right—a patent. It is recognized law today that the patent right is a form of personal property,⁴⁰ and that it may be transferred to others.⁴¹ The General Electric rule of reason⁴² is law today. It has been argued that the case is doubtful law.⁴³ However, it is unclear whether this derogation is directed to the price-fixing aspect, or to the rule of reason advocacy of the Court, or both.

Legislative history favors the interpretation that patents are favored even from the antitrust viewpoint; courts, through the first decade of this century have so recognized. It is also historically correct that during this same period patent license practices, now virtually per se violations of the antitrust law, such as tie-ins, were almost universally considered beyond the reach of the common law rule of restraints and, later, the Sherman Act.

It has been noted that whereas those justices who upheld the free use of license restrictions justified their positions, those pulling such restrictions within the area of antitrust did not justify their decisions by logic, but by simply declaring them anti-competitive. In some cases it seems not an exaggeration to conclude that those espousing the antitrust test are saying that the law is not the law. That the future may support their wishes, if present trends continue, would prove only that they have accomplished changes in the law through the courts rather than through the Congress. It does not seem unreasonable to argue that there exists a proper matter for legislative clarification.

⁴⁰ 35 U.S.C. § 261, paragraph 1, provides that "patents shall have the attributes of personal property."

⁴¹ 35 U.S.C. § 261, paragraph 2.

⁴² 272 U.S. § 476 (1926).

⁴³ Note the 4-4 decision of the Supreme Court in *U.S. v. Huck Manufacturing Co.*, 382 U.S. 197 (1965).

COMMENTS

The Patent File and the Technology Assessment and Forecast Program

Introduction

In 1976, the Bicentennial year of the United States, the Patent and Trademark Office will issue the four millionth United States Patent. These patents form just a part of the patent file now consisting of some twenty one million documents classified in almost 90,000 subdivisions of technology. This voluminous file represents a national resource which, while available to the general public, has been little explored outside of the relatively small patent community.

Many of those familiar with the patent file have long recognized its potential as a rich source of both statistical and substantive information of interest to government and the public sector. The technology assessment and forecast program was established within the Patent and Trademark Office as part of an effort to develop this potential.

(This article was developed at government time and expense; therefore, is not copyrighted. See 17 U.S. Code § 8.)

History

The program, which is administered by the Office of Technology Assessment and Forecast (OTAF) began in 1971. It sprang from the knowledge that within the patent file can be found almost all major technological advances that have occurred both here and abroad during the 185 years since the first U.S. patent was granted, and from the realization that this file has significant potential as a resource for determining the history, development and current status of technology.

The patent file is used primarily by government patent examiners and the public as the principal resource in determining the novelty and patentability of invention, but it also can be used in other ways, such as, a means to measure the foreign activity in any technology area. Other uses which previously have been suggested include combining patent data with other evidence available to determine: (a) temporal changes in aggregate invention; (b) spatial differences in invention; (c) industrial differences in inventive activity; (d) temporal changes in invention by industry; and, (e) social, psychological and economic attributes of inventors and their backers.¹

Only a relative few have attempted to use the file in these other ways. Several such attempts have focused on the use of patent activity data as a measure of inventive activity.^{2,3}

Objectives

In its most general terms the mission of this program is to stimulate and enhance the use and useability of the patent file and to assemble, analyze and make available meaningful information about the file. A primary objective of the program is to assist in the more effective utilization of our technological resources by:

- identifying areas of technology in which a high proportion of the activity is of foreign origin;
- spotlighting areas of technology exhibiting unusually rapid overall growth;
- providing business and government decision-makers with a single source from which to obtain information and data covering the entire spectrum of technology.

¹ Schmookler, 1 *Technology and Culture* 214 (No. 3) (1960).

² Mueller, 15 *Journal of Industrial Economics* 26 (1966).

³ Schmookler, *Invention and Economics Growth*, Harvard University Press (1966).

The File

The data base upon which this program draws is the twenty one million documents in the patent file. Eleven million U.S. patents (originals and cross references), 9 million foreign patents and 1 million pieces of non-patent literature are indexed and classified among nearly 90,000 subdivisions of technology.

Each year about 250,000 new U.S. patent documents (originals and cross references) are added to this file, along with 280,000 new foreign patents. A sizeable staff continually reviews this file and restructures it to accommodate new technologies and changes in existing technologies.

Information about the patent file has been extracted by OTAF and placed in a computerized data base. At present this information includes:

- all subclasses of the U.S. Patent Classification System;
- the relationship of all subclasses of the U.S. Patent Classification System to the Standard Industrial Classification System in 36 Product Fields and Product Field combinations;
- for all U.S. patents, their recorded location within the U.S. Patent Classification System;
- for each U.S. patent issued since 1963, the ownership at time of issue in seven categories (U.S. government, foreign government, U.S. corporation, foreign corporation, U.S. individual, foreign individual and unassigned); and the country or state of residence of the inventor;
- for U.S. patents issued since 1969, the specific (i.e. named) ownership at time of issue of all which are organizationally owned (e.g., by a corporation, foundation, government agency); and
- for all patents issued since 1967, the application number and date of filing of this application.

Data can be retrieved on the basis of any one or any combination of the factors listed above, manipulated on almost any given basis and presented in a number of formats, e.g., tables, graphs, etc.

Previous Activity

The Office of Technology Assessment and Forecast disseminates information about the patent file, in part, by issuing periodic general distribution reports. The most recent of these, the *Sixth Report*, issued in June 1976.

Previous reports have focused on a wide range of technological areas wherein patent activity has indicated a heavy concentration of effort—both overall and by foreign countries. Generally, the area is identified by a brief definition, and the patent activity is profiled

over the last 10 years. This profile includes 1) total patents, 2) patents granted to residents of the United States, 3) patents granted to residents of foreign countries, and 4) patents granted to residents of specific foreign countries.

Past reports have also focused on the patent activity of a number of energy areas such as nuclear, solar and geothermal, as well as coal gasification and oil shale conversion.

In areas of unusually high activity or interest, more detailed reports have been prepared by patent examiners knowledgeable in the area. In each of these "in depth" reports, the thrust of the technological activity as represented by the patenting in the area was reviewed. Recent examiner reports have focused on prostaglandin drugs, color electrophotography and gas lasers.

Additionally, a previous report has profiled the U.S. patent activity of a number of selected states and foreign countries along with some of the largest U.S. and foreign corporations. Patent ownership in the technological areas of nuclear energy, coal gasification and oil shale also was examined.

In the Fifth report (August 1975) information was presented which may make patent activity significantly more useful. OTAF, with the support of the National Science Foundation (NSF), has built a partial concordance between the Patent Classification System and the Standard Industrial Classification (SIC) system. Using this concordance, data were developed and presented showing eleven years of patent activity in 36 SIC product fields; fields often used by NSF in reporting economic parameters. For the first time this allows broad scale correlations to be made between patent activity data and pertinent parameters such as research and development expenditures.

Although still in an early state of development, it is felt that the concordance and the data development it permits provides economists and statisticians with a significant and objective new tool to use in their work—a tool which, perhaps, will ultimately enable a deeper understanding of the interrelationships between technology and the economy.

In the most recent report (*Sixth Report*, June 1976) patent data have been reported on the basis of the date patents were applied for rather than when they were granted, this eliminates any skewing efforts which the Patent and Trademark Office's patent examination process might impose and additionally permits the data more accurately to reflect actual chronology of technological development.

Current Activities

Work is currently underway to demonstrate how patent data and economic data can be correlated to investigate the influence of one upon the other.

Efforts also are in progress to refine and expand the concordance between the Patent Classification System and the SIC system. This will allow investigations in even more selective areas of technology than are now possible.

In addition to publishing periodic, general distribution reports, as described above, OTAF now offers special report services on request. These services provide reports, tailored to specific needs and interests, which are available to other government agencies and the public sector on a cost reimbursable basis.

Future Activity

Future activities will be directed to improving the various functions of the technology assessment and forecast program.

Other promising data sources will be examined to see if they provide useful information. For example, patent search and citation and patent copy sales data may be useful as technology assessment tools.

Another area which looks promising is the expansion of the OTAF base to include data concerning the patents of other countries.

In addition, OTAF will endeavor to determine the needs of other government agencies and the public sector regarding the patent file. Joint projects may be undertaken to investigate promising areas. Also, individuals whose interest lie in this area, may be engaged on a temporary basis to work with the OTAF staff to develop new sources or uses of data as they appear to be needed.

It should be kept in mind that the technology assessment and forecast program is, in many ways, still experimental in its approaches to patent information development and use. Yet, in its brief, five year life the program has made significant strides, confirming that the patent file does, indeed, offer much more than that for which it has historically been used.

As the Commissioner of Patents and Trademarks, C. Marshall Dann, remarked upon release of OTAF's *Fourth Report*, "The patent file represents a vast but largely untapped information resource of great potential value. We intend to do our best to mine that resource and to realize that potential. If our efforts are successful,

the benefits of the Patent System will be significantly widened and the Patent and Trademark Office will play an increasingly important role in support of the Commerce Department's goal of providing vital economic and technological information to the Nation."

So far the results of those efforts have been encouraging. However, in the final analysis, the true measure of the technology assessment and forecast program's success will be determined by the degree to which it contributes to the fuller realization of the constitutional purpose of the Patent System—" . . . To promote the progress of science and the useful arts. . . ."

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The Inventor Profile

Corporate Invention and Assignment

The Inventor Profile, announced in IDEA [Vols. 16 (No. 1) and 17 (No. 1)], was conducted in 1974-75. Questionnaires were mailed to 1,000 randomly sampled patentees from the years 1968 and 1973. This investigation was a joint effort of the PTC, Franklin Pierce Law Center, Academy of Applied Science, and M.I.T. and updates previous research on the United States patent system. The results of the study are documented in A Profile of Users of the U.S. Patent System: 1968 and 1973, an M.I.T. Master's Thesis by James F. O'Bryon.

The major findings will be published by the PTC as a separate monograph. In addition, selected excerpts from the original study will appear in issues of IDEA. The following is the first of the series to appear in print.

Corporate Size. The role of large corporations in the production and ownership of patents has been widely debated. This portion of the study examined the relative sizes of corporations to which

patents had been assigned. The two parameters selected as measures of corporate size were total net sales and the total number of employees for the year of patent issue. For corporations which are subsidiaries, the data for the parent company was used and not that of the subsidiary. This was done for two reasons. First, it is sometimes difficult to obtain sales and employment figures of subsidiaries because they are often aggregated with those of the parent corporation. Second, patents produced by a subsidiary have the available support, in most cases, of the parent company and the subsequent patents are accessible to the parent company.

The primary sources of information on corporate size were the Fortune Top 500 Industrials, Fortune Second 500 Industrials, Fortune Directory of the Largest Non-Industrial Companies, Directory of Top Companies Outside the U.S., and other similar sources. This information was supplemented by data contained in Moody's Industrials and, when necessary, Standard & Poor's industry description sheets. Assignment information was obtained from the United States Patent Office Official Gazette. Information obtained from the inventor survey indicated that the Gazette was an accurate source of invention assignment status.

Patent Productivity of the Top 50 U.S. Industrials. The fifty largest U.S. corporations accounted for 31% of the total output of U.S. industry and 31% of the employees. However, the total number of patents creditable to these largest corporations was 21% of all patents of domestic origin and 30% of all industry-assigned U.S. patents.

Patent activity varied widely within this group. Tables 1 and 2 give a listing of the patent activities of the top 50 corporations for the years 1968 and 1973 (as cited in the Official Gazette as assignments to these corporations). Also included were patents assigned to foreign and domestic subsidiaries of these corporations, when they could be identified. Because all subsidiaries could not be traced, particularly for conglomerates having subsidiaries with dissimilar names, some parent companies reflect a somewhat lower level of patent activity than actually took place. However, subsidiaries generally accounted for only 10% of the patent production of parent corporations and the impact of failing to connect all subsidiaries and parents is minimal.

Two indicators of patent activity were used. One was the number of patents per \$100 million in net sales during the year of patent issue. The other was the number of patents produced per 10,000 employees during the year of patent issue. These two indicators

gave a descriptive picture of the relative patent activity for each corporation.

In 1968, the leading corporations in patent activity, when measured by patents per dollar sales, were Dow Chemical, Monsanto, Dupont, Westinghouse, Eastman Kodak, Phillips Petroleum, Union Carbide, and General Electric respectively. A slight reshuffle in the order occurred when patent activity was measured by output per employee. Dow Chemical was again first, followed by Phillips Petroleum, Monsanto, Shell, Dupont, Gulf, and Westinghouse.

In 1973, Dow Chemical was again the most active corporation when measured by patent per dollar sales, followed by Eastman Kodak, Monsanto, Phillips, Westinghouse, Dupont, Xerox, and General Electric. Using the measure of output per employee, Phillips placed first, followed by Dow Chemical, Shell, Monsanto, Dupont, Eastman Kodak, and Union Oil.

One advantage of using the output per employee was that the inflation factor intrinsic in patents per dollar sales was not present. Although the total employees of the top 50 corporations increased 11% from 1968 to 1973, the number of patents produced by this group remained unchanged.

In the automotive field, the market leader, General Motors, led in all measures of patent productivity. The second largest, Ford, was not as active but still surpassed the third largest, Chrysler. The same pattern of "market leader: patent leader" existed in the rubber and steel industries. This, however, was not the case in the electrical/electronics industries. General Electric, the market leader, was not as active as second largest, Westinghouse.

The aircraft industry consistently showed a low level of patent productivity. Two suggestions are offered as to the possible reason. First, a very high percentage of business awarded to aircraft manufacturers is through government contract and patent yield rate on government-sponsored work has traditionally been very low. Second, the lack of incentive caused by the "patent pool policy" that exists in the aircraft industry could also be an explanation.

Patent Productivity of the Top 50 Industrials Versus the Top 500 Industrials. The top 50 U.S. industrials had net sales in excess of \$2.5 billion each in 1973, while corporations ranking 51st to 500th had sales of between \$200 million and \$2.5 billion each. The top 50 represented 31% of all U.S. industrial sales and employment and 30% of all patents assigned to industry. The 51st to 500th com-

panies shared 34% of all U.S. industrial sales, 45% of total U.S. industrial employment, and 38% of all patents assigned to U.S. business. Thus, the top 50 have a *higher patent productivity per employee* but a *lower patent productivity per sales dollar* than the next 450 largest industrials.

Patent Productivity of Fortune's Second 500 Largest U.S. Corporations. These corporations had sales in 1973 of between \$80 million and \$240 million each. They accounted for 6.8% of all U.S. industrial sales and 9.6% of all industrial employment. The patents assigned to these corporations accounted for 5.6% of total U.S. patents of domestic origin and 8.0% of all U.S. patents assigned to business.

Patent Productivity of Small and Medium-Sized Businesses. Table 3 summarizes the distribution of sales, employees, and patents assigned among U.S. industries. The statistics do not include patents assigned to government (4% of all U.S. patents) nor the patents granted to individual inventors residing in the U.S. (17 of all U.S. patents granted in 1968 and 1973).

The ratio of the percentage of patents to the percentage of employees for the smaller firms is almost twice that of the top 1,000, although the ratio of patents to sales percentages is consistent throughout.

An average of 13% of all U.S. patents are going to small businesses which, by The Small Business Administration's definition, range from one or two-man operations up to businesses with annual sales of \$5 million.

The reasons for the higher per capita production rate for smaller corporations has been the subject of many studies. Cooper,¹ for example, has suggested that the average capabilities of technical people are higher in small firms than in large ones. Small research-based firms are often able to attract outstanding technical persons who are given the opportunity to influence their own environments to a greater extent than is possible in large organizations. He also suggested that many large firms hire great numbers of recent college graduates, many of whom are relatively unproductive until they have acquired some "seasoning". By contrast, small firms typically hire persons who have already demonstrated a technical competence in larger organizations. Also, he has suggested that the attitude of technical people on project-success is more intense since the personal, financial fortunes of the engineer

¹ Cooper, "R&D is More Efficient in Small Companies," 42, *Harvard Business Review* 75 (1964).

are more closely tied in smaller corporations. Studies by Gruber, Poensgen and Prakke² attributed the more productive nature of smaller corporations to better interface between the market and the inventor.

² Gruber, Poensgen and Prakke, "Research on the Interface Factor in the Development and Utilization of New Technology," *R&D Management*, 152 (1964).

TABLE 1
FORTUNE'S TOP 50 U.S. INDUSTRIALS (1968)

Corporation Name	Number of Patents Asgn'd	Patents/\$100M Sales	Patents/10K Employees
1 General Motors	535	23.5	7.1
2 Std. Oil of N.J.	358	25.4	23.7
3 Ford Motor Co.	169	12.0	4.2
4 General Electric	961	114.7	24.0
5 Chrysler Motors	61	8.2	2.6
6 IBM	383	55.6	15.8
7 Mobil Oil	198	31.8	25.3
8 Texaco	88	16.1	11.2
9 Gulf Oil	279	61.3	46.3
10 U.S. Steel	117	25.8	5.8
11 Int. Tel. & Tel.	110	27.1	3.8
12 Western Electric	124	30.8	7.0
13 Std. Oil of Cal.	*	*	*
14 McDonnell Douglas	61	16.9	4.9
15 Dupont	582	195.9	59.8
16 Shell Oil	255	76.9	65.4
17 Westinghouse	576	173.0	41.4
18 Boeing	47	14.6	3.3
19 Standard Oil (Ind.)	50	18.3	12.3
20 RCA	250	80.5	20.0
21 GTE	26	8.8	1.6
22 Goodyear	68	23.2	5.7
23 Bethlehem Steel	36	12.6	2.7

24 Swift (Esmark)	23	8.1	5.0
25 LTV	13	4.7	1.1
26 Union Carbide	364	135.5	36.4
27 General Dynamics	100	37.6	9.9
28 Eastman Kodak	407	153.9	37.7
29 North American Rockwell	118	44.7	10.4
30 Procter & Gamble	83	32.6	19.7
31 Int. Harvester	192	75.6	18.1
32 Nat. Dairy (Kraftco)	20	8.2	4.3
33 United Aircraft	165	68.5	21.7
34 Continental Oil	99	44.0	28.8
35 Lockheed	56	25.3	5.9
36 Firestone	30	14.1	2.9
37 Phillips Pet.	302	143.3	85.4
38 Armour	35	16.7	10.7
39 Tenneco	23	11.1	3.7
40 Litton Indust.	55	29.6	5.2
41 Monsanto	461	257.1	77.1
42 Sun Oil	53	29.8	18.0
43 Singer	80	45.6	5.9
44 General Foods	27	15.5	7.3
45 W.R. Grace	113	65.0	16.4
46 Caterpillar	84	49.2	13.6
47 Textron	26	15.2	3.6
48 Occidental Pet.	2	1.2	0.9
49 Borden	11	6.6	2.8
50 Dow Chemical	541	327.9	114.1

* no data available

TABLE 2
FORTUNE'S TOP 50 U.S. INDUSTRIALS (1973)

Corporation Name	Number of Patents asgn'd	Patents/\$100M Sales	Patents/10K Employees
1 General Motors	663	18.5	8.2
2 Exxon	299	11.6	21.8
3 Ford Motor	174	7.6	3.7
4 Chrysler Motors	21	1.8	0.8
5 General Electric	1027	88.7	26.5
6 Texaco	237	20.8	31.6
7 Mobile Oil	147	12.9	19.9
8 IBM	626	56.9	22.8
9 Int. Tel. & Tel.	166	16.3	3.8
10 Gulf Oil	139	16.5	26.9
11 Std. Oil of Cal.	57	7.3	14.5
12 Western Electric	145	20.6	7.0
13 U.S. Steel	147	21.1	7.9
14 Westinghouse	580	101.7	29.9
15 Standard Oil (Ind.)	79	14.6	17.0
16 Dupont	514	97.5	43.6
17 GTE	3	0.6	0.2
18 Shell Oil	246	50.4	76.9
19 Goodyear	96	20.5	6.3
20 RCA	*	*	*
21 Continental Oil	74	17.3	18.6
22 Int. Harvester	65	15.5	6.1
23 LTV	*	*	*

24 Bethlehem Steel	47	11.4	4.0
25 Eastman Kodak	524	129.9	43.3
26 Atlantic Richfield	76	19.1	28.9
27 Swift Esmark	17	4.3	5.2
28 Union Carbide	230	58.4	21.1
29 Tenneco	56	14.3	6.7
30 Procter & Gamble	100	25.6	21.3
31 Kraftco	15	4.2	3.1
32 Greyhound	*	*	*
33 Boeing	45	13.5	6.6
34 Caterpillar	171	54.7	23.0
35 Rockwell Int'l	56	17.6	5.6
36 Occidental Pet.	13	4.1	4.1
37 Firestone	43	13.6	3.7
38 Dow Chemical	461	150.2	92.6
39 McDonnell Douglas	80	26.6	10.2
40 Phillips Pet.	322	107.6	96.4
41 Xerox	282	94.3	30.0
42 W.R. Grace	107	38.1	14.4
43 Beatrice Foods	24	8.6	3.9
44 Lockheed	45	16.3	6.7
45 Monsanto	304	116.1	52.1
46 General Foods	55	20.9	11.5
47 Litton Indust.	78	29.7	7.4
48 Borden	16	6.3	3.4
49 Union Oil (Cal.)	65	25.4	40.9
50 Minn. Min. Mfg.	210	82.5	26.6

* no data available

TABLE 3
PATENT PRODUCTIVITY IN U.S. INDUSTRY

Corporation Size Ranking	% U.S. INDUSTRIAL SALES	% U.S. INDUSTRIAL EMPLOYMENT	% U.S. PATENT ASSIGNED TO BUSINESS
1-50	31%	31%	30%
51-500	34%	45%	38%
501-1000	7%	10%	8%
1000*	28%	14%	24%

* The figures for these firms were obtained by subtracting the known percentages for the top 1,000 from 100%.

Comment on Corporate Invention and Assignment

With the publication of each excerpt from the Inventor's Profile in IDEA, we will print selected comments and analysis by our members. Many thanks to Mr. Clark for providing this first advanced comment on very short notice. We are also interested in your analysis and interpretation of these articles and will consider publishing appropriate letters from our readers. (Ed.)

This study is based on numbers of patents as opposed to the value of the inventions represented thereby, and as a result, can only yield some rather vague first impressions. I might note that I found no major surprises in the study. For example, the lower number of patents per dollar of sales and per employee in the automobile industry is generally less than in the chemical industry, thus suggesting that such things as manufacturing efficiency and styling are more important in automobiles than patented proprietary technology.

I have no suggestion as to how you might readily conduct a study on the value of the assigned patents other than to note that since valuable inventions protected by patents should yield higher profits, you may be able to obtain a meaningful statistic by multiplying the number of patents per sales dollar by a factor indicative of profitability; i.e., profit before taxes divided by the sales dollar. While profitability is a result of many factors such as the capability of management, the size of the divisor, market position, competition, etc., the value of patents should play a part, more certainly in those businesses concerned with the more complex and advanced technologies.

The only other comment I will make is that a study of patent productivity based on pure numbers of patents might better be determined by taking into account the size of the non-Government-related R&D expenditures (or the number of research employees) rather than total sales dollars and total numbers of employees. In my experience, the major factors determining patent productivity are R&D expenditures together with the policy that a company follows in seeking patents. Other significant factors certainly include the quality and motivation of those directing and

conducting R&D as well as the degree of maturity of the area of technology in which they are working. I have no suggestion as to how you could include these considerations in such a comprehensive study, but you have my comment for what it is worth.

I look forward to seeing future chapters of your report as they are printed in *IDEA*.

JOHN B. CLARK
Director, Patent Department
Monsanto Company
St. Louis, Missouri

The Inventor Profile

THE INVENTOR

One of a series of monographs based on the PTC—Academy of Applied Science Inventor Profile Research Project. See IDEA, Volume 18 #2, pp. 45-54, and James F. O'Bryon thesis therein referred.

Inventor Stereotypes. Although the public's mind has been captured by the image of a Bell or an Edison, madly producing prototypes of all sorts of gadgets in his laboratory or basement from leftovers and scraps, this is rarely the mode of today's inventor. While there may be a few who fit the stereotype, the vast majority are professionally trained researchers who systematically pursue solutions to a wide range of technological problems in their own or their employer's business as the following examples will show.

The Novice Inventor. Approximately 9 percent of those surveyed were first time users of the patent system. This was the same in both the 1968 and the 1973-74 survey. Eighty percent of their patents were classified as general/mechanical, with the remainder equally divided between electrical and chemical. In contrast, the overall patent distribution is 56% general/mechanical, 25% chemical and 19% electrical.

Fifty-eight percent of these first time patents were assigned to business, government or educational institutions as compared with a 78% assignment rate overall among those surveyed.

Surprisingly, these "novice" inventors had a higher return on their inventions than the average patentee. Nearly 20% reported income in excess of \$2,000 from this first and only patent. The average for all patentees was 6% to 7%.

Although the novice's attitude on whether or not the benefits of patents outweighed the costs was consistent with the overall sample (two out of three thought it was worthwhile) only 23% had another patent pending as compared to 58% overall.

The Professional Inventor. On the average, six percent of the patentees sampled held 50 or more patents (4% in 1968 and 8% in 1973). They continue to actively use the system with an average of 12 patents pending per inventor.

The distribution of their patents is characteristic of the overall sample, but the rate of patent assignment is much higher than average. Nearly 90% had assigned the majority of their inventions to their employers through prior assignment arrangements.

Income from their patents varied widely. Some reported no income while two reported incomes of over \$200,000. Average income for the group is therefore meaningless.

The Average Inventor. The "typical" American inventor is approximately 44 years old, male, with at least a bachelors degree, and holds an average of 16 patents.

The vast majority of the inventors were male. Of the 1,000 inventions examined, 65% were created by men working alone and 33% were created by men working in groups. The sex of half of the remaining 2% of inventors was unclear because their names could be used by either men or women. Only the other half of the remainder (or 1% of the total) could be attributed to women as sole inventors or participants in inventing groups. Although this seems low, it is not out of line with the average percentage of women in the science and engineering fields. (The National Engineers Register of 1971 estimated that less than 1/2 of 1% of the nation's scientists and engineers were women.)

The inventors granted patents in 1973 were asked for their age at the time of the survey. The results are summarized in Figure 1. The age distribution of patentees is not significantly different than the age distribution of engineers in the United States. The median age was 46.3. Because the age at the time of patent issue is not the same as at the time of invention, the median was adjusted downward by the average time from invention to application (7.8 months) and the average time from application to issue (29.2 months). The adjusted median of 43.2 years is very close to the median age of engineers in the 1969 National Engineers Register survey (42 years).

Of all the patentees in the 1973 survey, only two percent had not completed high school. Thirteen percent had completed high school and five percent had two-year college degrees. Forty-three

TABLE 1
AVERAGE NUMBER OF PATENTS PER PATENTEE BY AGE

AVERAGE INVENTOR AGE	MEAN NUMBER OF PATENTS HELD	CHANGE IN MEAN PATENTS HELD
29	5.8	—
39	11.4	5.6
49	15.2	3.8
59	20.6	5.4
69	33.2	12.6

percent held bachelor's degrees, 16% held master's degrees and a surprising 21% held doctoral-level degrees. (Only 8.5% of the employed engineers hold Ph.D. degrees.) Overall, 80% held a minimum of a bachelor's degree, and 37% held advanced degrees.

Of the U.S. inventors granted patents in 1973, 19% held degrees in electrical engineering, 19% in mechanical engineering and 19% in chemistry. Chemical engineering was the next most common discipline with 8%, physics with 7%, electronics with 5%, business-economics-management with 5%, and aeronautical and civil engineering with 2% each.

Nationally, chemistry and physics account for only 2% of the technical degrees, but 26% of the degrees held by patentees. In contrast, civil engineers account for 16% of the technical degrees in general, but only 2% of the degrees held by patentees.

Productivity. The estimated number of patents received by the 270 inventors surveyed on productivity is 4,200, an average of 16 patents each. The actual distribution is shown in Figure 2. More significant, however, is the fact that 40% of the patents were produced by 8% of the inventors and, conversely, that 40% of the inventors produced only 8% of the patents. The overall distribution is very similar to that demonstrated for scientific productivity, based on published papers in several branches of natural sciences.*

One of the more widely held assumptions about creativity is that younger, more fertile minds produce a disproportionate number of new ideas. This does not seem to be the case for the patentees studied as shown in Table 1. The average increase in patents is about one every two years from age 29 through 59. Between 59 and 69, it increases to over one per year. The older inventors get patents at twice the rate of the younger!

* Lotka, A. J. "The Frequency Distribution of Scientist Productivity," 16 J. Washington Academy of Science 317 (1926).

FIGURE 1
AGE DISTRIBUTION OF PATENTEES

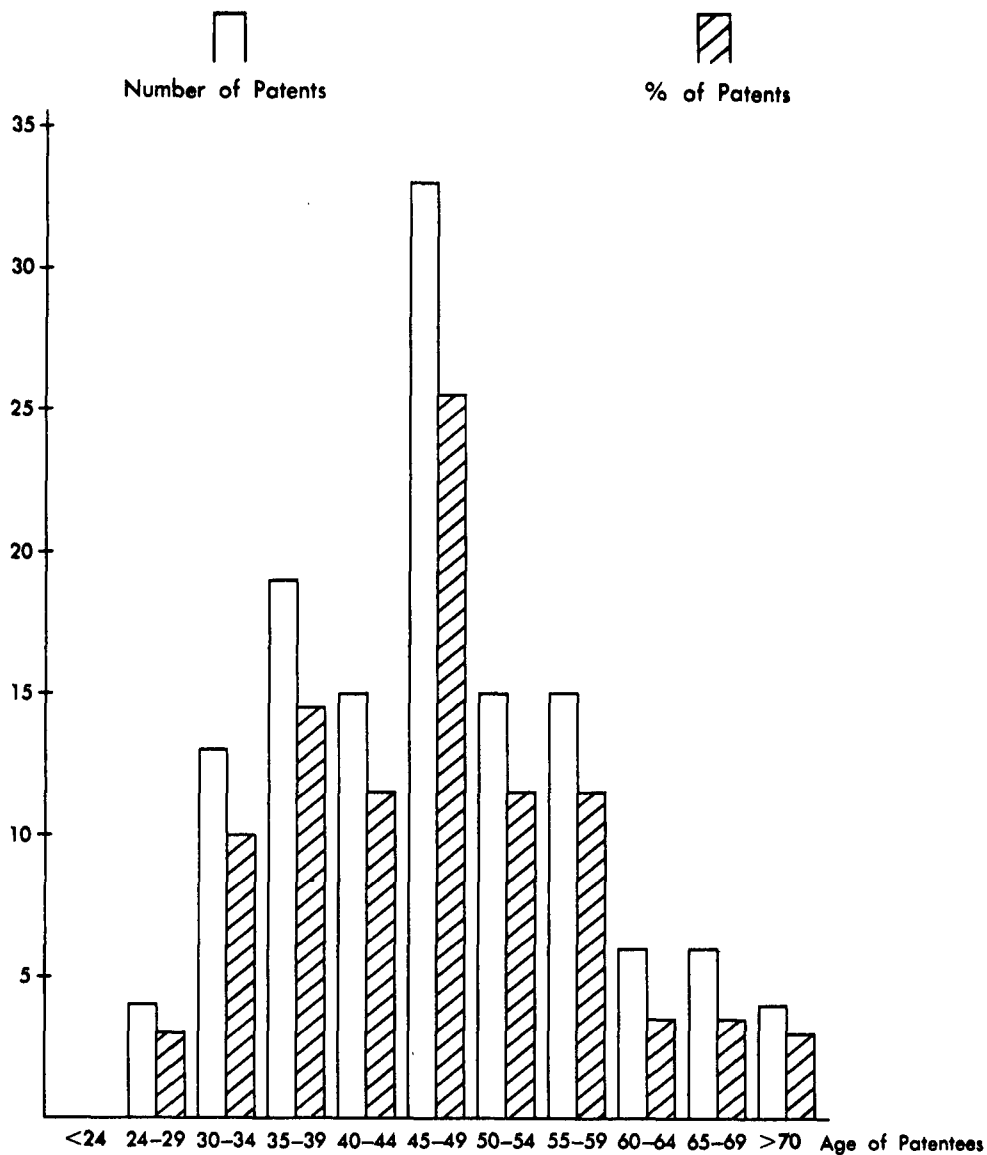
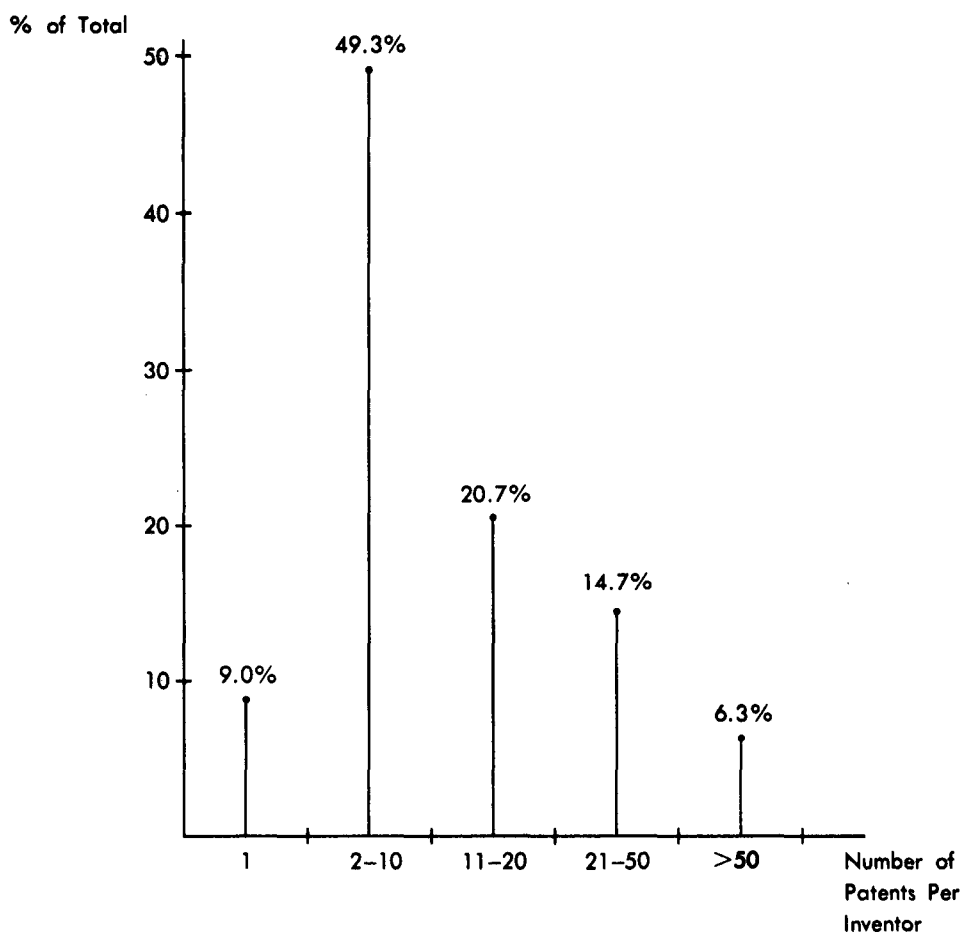


FIGURE 2
DISTRIBUTION OF PATENTS PER INVENTOR



British Inventor Profile

DIANE ZINGALE*
URSZULA FRYDMAN*

This study was designed to complement the United States Inventor Profile Research Project of the PTC, Academy of Applied Science, and was cosponsored by the British Institute of Patentees and Inventors.¹

The purpose was to find out who is using the United Kingdom patent system and what they are patenting. Although it is not as extensive, it has still produced some interesting results.

The study began in 1975. The British inventors who were surveyed were all members of the above mentioned British Institute. Three hundred questionnaires were sent out and 262 were returned. Because the sample was based on one year, it is not possible to discuss trends and we were not able to obtain demographic or geographic distributions. However, the results are of great interest.

The British inventor works by himself. Most inventions were formulated on the inventor's private time, and not while he was working on a corporate project.

The inventors are prolific; they hold at least two different patents and about half of the inventors have patents pending. They

* Students, Department of Electrical Engineering, Massachusetts Institute of Technology.

¹ See Inventor Profile, this issue.

also have inventions they could have patented, but did not for various reasons. Significantly, about 25 percent of the inventions are protected by trade-secret not patents.

The inventors usually invent within their field of primary concentration. They do not go out of their field or invent in different areas. However, the invention often arises while researching a different problem as a result of some practical need discovered.

The British inventor takes about three months to develop his or her idea to the state where a patent can be applied for. Most inventors keep a diary of their inventing process. This is because of a major difference between the British and American patent systems. In Britain, the inventor may file a provisional specification of his invention while he is perfecting it to the point where it can be patented. In the United States an idea must be fully developed before any action can be taken. (Two other major differences between the patent systems are that publication is a bar to a patent in the British system whereas the United States permits filing up to one year after publication; and in Britain, the patent automatically goes to the first person to file, rather than the first to invent as in the United States.)

Forty-four percent of the inventors found their inventions in market difficulty, primarily because of their lack of capital.

Finally, almost all of the inventors agreed that the patent protection should be extended beyond 18 years. The limited duration of the patent is a major reason why they feel it is not worth patenting all their inventions.

About 50 percent of the patents granted were in the field of mechanical engineering. About 25 percent were in electrical engineering and the remainder were in various other fields.

In those cases where the invention was assigned to an employer, small companies of less than 25 employees made forty-four percent of the inventions. Medium-sized companies with about 100 employees produced 32 percent of the inventions. Large companies with more than 1000 employees produced under 22 percent of the inventions.

About one-half of the inventors felt that their employers encouraged the development and patenting of inventions. About one-third felt that their employer neither encouraged nor discouraged the invention process. The remainder felt the employer distinctly discouraged invention.

On the marketing side, slightly less than one-half of the employers encouraged the marketing of the invention. The remainder

neither encouraged nor discouraged the marketing process. Significantly, most inventors felt their companies failed to do all they could to make maximum use of their patent. Also, most companies had no incentives to encourage their employees to invent nor did most inventors get any financial reward from their corporate patents.

The results of the survey in conjunction with commercial inventions, show that companies spend somewhere around \$100,000 in the marketing effort. The income companies realized, however, was somewhere around two million dollars.

To summarize the keypoints of the survey:

1. Most inventions are not the efforts of large corporations; the inventors are lone individuals often working as part of a small project or group in a small company.
2. The inventors feel they have no incentive from employers to invent or to patent.
3. Most realized little financial gain from their patents.
4. The production and commercial use of the patent is restricted by the lack of venture capital or corporate marketing funds.

Government-Sponsored Technology

WILLIAM O. QUESENBERRY*

This paper was presented at the 1976 PTC Seminar on Innovation.

I suspect that if an opinion poll was directed to our economists many would contend that American invention and innovation would have occurred and will continue to occur with or without the American patent system and therefore a patent system may in fact be a detriment to the achievement of economic competition.

In a similar poll, patent lawyers would probably stand as one in the conviction that our patent system has been the very foundation upon which this country built a predominant position in technology. This same group would also tell us that if we as a nation want to rekindle American free-enterprise invention and innovation and continue to be the world's technology leader, the legislative, judicial and executive branches of our Government should stop eroding the patent system and start restrengthening it.

I have been a patent lawyer for almost 30 years. That fact alone means that my views on that controversy would come as no surprise to any of you. Like any other red-blooded patent lawyer, I'm usually ready at the drop of a hat to argue with the economist who says, "A patent system—who needs it!". While this anti-patent attitude as a generalization is absolutely wrong, I will admit that the

* Patent Counsel, Office of Naval Research.

need for a patent incentive to produce Government-sponsored invention and innovation is a hypothesis that becomes difficult to defend with equal self-assurance.

The Federal Government spends over \$20-billion a year for salaries, grants and contracts to generate technology. This money is not wanting for takers. How many Government engineers, university researchers or industry research directors do you know who would admit to anything less than full effort toward invention and innovation in return for their purchased services?

Therefore, since Government-financed research may not fit the same pattern of incentives as does research requiring private risk capital, let me leave the suggestions for rekindling to others. Instead, let me share with you my concern, not for rekindling Government-sponsored invention and innovation, but how we might bring about a greater commercial utilization of the invention and innovation that the Government does generate with Federal funds.

Two out of every three dollars spent to develop new technology in this country comes from Federal agencies in furtherance of their respective missions. In history's first Presidential Message on Science and Technology to Congress in 1972, the White House acknowledged that an asset unused is an asset wasted. The President stressed the need to apply Government-generated technology to solving the nation's social and economic problems and bolstering American leadership in trade competition.

This was the signal for executive agencies to organize and support programs for transferring mission-serving technology to wider use in the private sector. The flurry of awareness and organization for technology transfer is now quite apparent in most agencies, but it will take more than publicity to attract very many entrepreneurs to the boneyard of Government technology. The ultimate results well may turn on the interface of the program with such things as inventions and patent incentives.

To pursue this thought, we might ask ourselves why it is that a reservoir of some \$200 or \$300 billion worth of technology, free for the taking, has not been snapped up by private industry. If you are thinking "Who wants to commercialize torpedoes and guided missiles?", let me point out by way of example that probably no more than about one out of five inventions in the Navy's portfolio of 9,000 patents are devices adaptable solely to military application. Government-sponsored research and development in furtherance of the Navy's mission has produced technology in such fields as

medicine, chemistry, communications, transportation, energy, environmental control, construction and metallurgy, to name a few.

The problem is: research that produces new technology is but a small part of the cost of bringing that technology to the marketplace. Private risk capital is necessary to develop Government inventions for commercial appeal, to tool up and manufacture, to promote and to distribute. The 25,000 inventions in the Government's patent portfolio have been available, up to now, only on a nonexclusive basis. Little wonder so few of these have been able to attract the private risk capital necessary for commercialization.

But the Government's portfolio is not the only boneyard of Federally-funded technology. In the past ten years, research and development contractors have filed patent applications on some 14,000 Government-financed inventions retained by them under patent policies followed by agencies such as the military departments, for example. Studies made by the Senate Subcommittee on Patents, Trademarks and Copyrights, the Patent, Trademark and Copyright Research Institute of George Washington University, and the Harbridge House indicate that approximately one in ten of these inventions is ever commercialized. Apparently, few have induced a contractor to change its product line or to modify its existing product model to accommodate the new technology. Most have been made available for licensing, but on a nonexclusive basis and this has failed to attract commercial developers.

If that is the ailment, what then might the cure be? I would suggest to you that if the Government is in fact serious about the utilization of its technology for the benefit of the civil economy it should look to its patent policy. It would do well to abandon the kaleidoscope of individual and ineffective agency policies in favor of a single uniform policy which uses the incentives of the patent system to move its reservoir of dormant technology to the commercial marketplace.

It has become quite apparent that the Executive Branch is going to have to go for legislation in order to establish Government-wide patent policy. In 1950 President Truman signed Executive Order 10096 setting forth the conditions under which the Government will take or relinquish title to inventions made by its employees. Last year a U.S. District Court in Illinois declared this Executive Order to be in violation of the separation of powers under the constitution.

The Presidential statements of patent policy issued by Kennedy and Nixon also seem to be in trouble. Practices under these

executive guidelines have been under attack. In 1973 and 1974, Public Citizen, Inc. (a Ralph Nader affiliate), joined by several liberal Congressmen sued to have regulations establishing the practice of exclusive licensing by Government agencies and procurement regulations permitting contractors to retain title to Government-financed inventions declared unlawful. In the first case, the District Court for the District of Columbia held the granting of exclusive licenses to Government-owned inventions without legislative authority to be unconstitutional. In the second case, which involved the procurement regulation, a different judge in the same District Court held the plaintiffs to be without standing to sue.

The District Court of Appeals heard both cases together and dismissed both on lack of standing to sue. Thus the constitutionality of both practices remains obscure, awaiting a future test by some other complainant such as a disgruntled competitor or an infringer who would have proper standing to raise the issue.

I ask you—Is there confusion or not? Under flexible executive guidelines, each agency has its own patent policy, no one knows for certain who has title to about 40,000 patented inventions in the hands of Government agencies and their contractors, and there is apparently little success in getting Federally-financed technology into the stream of commerce.

While legislation seems the only way out of the dilemma, we must recognize the risk of ending up with a Government-wide policy that ignores the patent system as a catalyst in the transfer of technology. Given a choice between (1) Government ownership and public dedication on the one hand, and (2) contractor ownership on the other, the Congress, under the persuasion of such partisans as the economists, consumer advocates and antitrusters, may well opt for the first choice. Certainly they seem to have taken this course in connection with new programs and new agencies in recent years.

I have been an observer and participant in the debate over Government patent policy since 1958. I think that I have heard every argument ever made, or probably ever will be made, as to whether title to Government-sponsored inventions should be taken by the Government or left with its contractors. I have become convinced that neither approach has proven to be effective in the transfer of Government technology to the commercial marketplace.

One well-known Senator remarked that if boredom were to be rated on a scale of 0 to 100, patents would probably score 97. Some

years ago, a well-known Admiral, appearing before the Senate Subcommittee on Patents, Trademarks and Copyrights, remarked that the way to solve the patent policy problem would be to immediately retire all patent attorneys, both in industry and Government, on full pay. Both may be more right than wrong.

However, I decided that before I turn my back to the struggle and ride off into the sunset, I would make one last attempt at a solution. I wrote a thesis entitled "Government Patent Policy: Time for Compromise". The PTC Research Foundation at the Franklin Pierce Law Center kindly published it in their Spring 1975 journal of IDEA, and I understand that the article can be obtained by the public from the National Technical Information Service.

In this paper, I go back in history and retrace the 30-year struggle for a uniform patent policy, the failure of the Legislative Branch to come to grips with the dilemma and the attempt by the Executive Branch to fill the void. I find that after three decades of rhetoric, disagreement and piecemeal guidance, Government patent policy is no more than a bundle of individual agency practices loosely lashed together in a state of confusion and ineffectiveness.

I believe that the nation is entitled to a single uniform patent policy to guide its governmental operations and one which will serve the needs and objectives of the private sector, the Government and the public. I propose the uniform approach of vesting legal title to all contract-generated inventions in the Government with an automatic option to the contractor for an exclusive license to commercially develop and market such inventions. This should satisfy the interests of all parties concerned.

With the national temperament and support shifting more and more toward society-oriented goals (e.g., standard of living, health, environment, etc.), industry well may be risking the loss of the battle by getting hung-up on what is largely semantics. The open objective of Government contractors has been commercial rights to inventions made under Government-sponsored research and development. By guaranteeing commercial exclusivity at time of contracting, the contractor would be assured of this objective, if he is in fact a serious entrepreneur and would apply his risk capital to bring the invention into the stream of commerce.

Under this proposal, a uniform patent rights clause would be used in all research and development contracts by all agencies for all types of technology with all types of contractors. This clause would form the basis for a procedure such as this:

First, each invention made under the contract would be disclosed to the sponsoring agency and accompanied by a declaration by the contractor of his interest in commercializing the invention. If the contractor has no interest in commercialization, the agency's commitment for an exclusive license would terminate. On the other hand, a declaration of interest in commercialization by the contractor would include his agreement to prepare and file a patent application covering the invention. This declaration and subsequent filing would assure the continuation of the exclusive license for a period of two years, for the purpose of his further determining the degree of patent protection obtainable and market potential and for developing a plan for commercial utilization.

At the end of the two years, the contractor would present in writing an acceptable plan for commercialization within a period not to exceed three years. In special circumstances where the 3-year timetable was shown as not feasible, the agency could extend the period for commercialization as appropriate. The contractor's plan should cover the general scheme for development, promotion, and marketing including estimated resource commitments and time schedules. The plan should provide greater impetus to consumer accessibility than mere availability for licensing. A contractor not capable of or not planning to manufacture and market the invention on his own would be expected to assume accountability for commercialization and would specify the cooperating industrial concern to be involved.

Progress reports, possibly annually, and a final report at the end of the period agreed upon for commercialization would alert the agency as to any necessity for steps to revoke the license and seek others who might commercialize the invention.

If the contractor brings about commercial utilization as agreed, his exclusive license would continue for another seven years in which time he would hopefully recoup his investment and make a profit. Should he permit utilization to cease, the agency could require him to license a responsible applicant to market the invention in his place. It would also be logical, with respect to so-called public health, safety or welfare technology, to require the exclusive licensee to adequately fulfill market demands and at a reasonable price or to sub-license others to do so.

An inter-agency review board would be established to resolve any dispute which might arise between an agency and its contractor and conferences. In November 1975 a seminar highlighting 37 differ-

The Government-wide use of a single patent clause vesting legal

title in the Government with a guarantee at the time of contracting to the contractor who can profit commercially by active pursuit of the market should present a policy which most nearly attains the goals of uniformity, predictability, participation, utilization, competition and administrative ease.

The contractor's objective suffers nothing from the Government holding legal title with commercialization at his disposal. At the same time, legal title places control in the contracting agency for a "no nonsense" effort to provide the public with its technology if the contractor fails to commercialize the invention, which seems to be the situation about ninety percent of the time.

The Government agencies are now beginning to work with the National Technical Information Service of the Department of Commerce to publicize their patent portfolios and attract prospective licensees. NTIS reaches many thousands of technology users through its publications and participation in technology exhibits and conferences. In November 1975 a seminar highlighting 37 different biomedical inventions from the National Institutes of Health, Energy Research and Development Administration, National Aeronautics and Space Administration, Navy and Air Force generated extensive licensing interest. From another conference sponsored by NTIS and Navy, an antifouling marine paint has attracted eleven U.S. manufacturers as licensees to produce the product.

NTIS, in cooperation with such agencies as the Department of the Interior, NIH and Navy, is beginning to select a few Government inventions with good commercial potential abroad for foreign patenting and licensing.

In summary, approximately two-thirds of all research and development conducted in this nation is paid for from Federal funds, which means tax dollars. The results of this Government-sponsored effort, for the most part, are used only for intended Governmental purposes and never reach the commercial marketplace. This means that we have a tremendous technology resource which is being largely under utilized at a time when the economy needs all the help it can muster.

Some legislation will have to be forthcoming if the uncertainties and inadequacies of the Government's patent policy are to be resolved. I would hope that this legislation would make the greatest use possible of the incentives of the patent system as a catalyst for encouraging the transfer of Government technology into the stream of domestic and international commerce.

The record indicates that neither of the traditional approaches practiced by Government agencies, namely the philosophies of title in the Government or title in the contractor, have accomplished technology transfer to any significant extent. For this reason, I have proposed to you an alternative which I feel provides common ground which would serve the needs and objectives of the private sector, the Government and, most importantly, the public.

Possibly the best way to end this talk with you is to repeat the final comment in my article in *IDEA*. It said, "Thirty years of patent policy debate is enough—let us get on with the job. It is time for compromise."

Are Patents Needed?

JACOB RABINOW*

The following is a composite of Mr. Rabinow's talk at the PTC 1976 Seminar on Innovation and his testimony before the Subcommittee on Economic Growth, Joint Economic Committee of the Congress of the United States, on July 16, 1976.

I have been an inventor for practically my entire life and now hold 209 U.S. patents and something in the order of 100 patents in foreign countries. For my work as an inventor, I have received many honors, among them a Certificate of Merit from President Truman and a Gold Medal from the Department of Commerce.

I was born in Kharkov, Russia, and came to the United States in 1921 at the age of 11. I was educated in New York and received two degrees in Electrical Engineering from the City College of New York. I have worked for the National Bureau of Standards from 1938 to 1954 and again from 1972 to the present. During the interruption of 18 years, I headed my own company for ten years and later merged it with Control Data Corporation, where I had the title of Vice President.

I am very grateful for the opportunity to speak here because I believe the health of the R&D effort in the U.S. and the general state of technological innovation is not as good as it should or could

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be, particularly considering our history, our vast resources, and our fiscal and intellectual powers. In order to put my fears into perspective, I would like to cite just a few documents that should be of interest.

1. The Department of Commerce has been studying the issuance of patents in certain specific technologies to residents of the U.S. and to foreigners. The number of patents filed is an excellent indication of activity in a particular field. Its report entitled "Technology Assessment and Forecast: Early Warning Report of the Office of Technology Assessment and Forecast, December 1973," listed a summary of the areas with the highest foreign shares of U.S. patents. It is interesting to note that in many areas of the patent art more U.S. patents are now being issued to foreigners than to ourselves. For example, in "Purification of Molten Iron," the foreign share is 77%; in the field of "Magnetic Field Responsive Resistors," it is 72%; in "Superconductors," it is 60%; in "Fuel Injection Pump Apparatus for Internal Combustion Engines," it is 57%; in "Automotive Fuel Control Devices," it is 61%; in "Ground Effect Machines," it is 54%.

That same report shows the areas of U.S. patents with the highest *projected* rate of increase in foreign shares. For example, in the "Magnetic Field Responsive Resistors," the present share is 72% and it will soon be 90%; in "Liquid Fuel Rockets," it is now 31% and soon will be 65%; in "Automatic Electric Arc Welding and Cutting," it is now 41% and is expected soon to be 78%; in "Pattern Recognition Systems," it is now 30% and it is climbing to 52%. I cite these examples as cases where we, in the U.S., were preeminent for many years and where we are now being rapidly overtaken.

2. In the November 8, 1973 issue of *Electronics*, you will find the following heading: "New R&D Indicators: Picture is Grim"; Sub-heading: "NSF Board Reports Continuing Slippage in U.S. Staffs and Investment as Competing Nations Expand: Instrument Industry a Bright Spot." The following two paragraphs are separate quotations from this article:

"The picture presented in the 1973 report of the NSF's National Science Board, a 143-page document titled 'Science Indicators—1973,' contains some disturbing data for the U.S. and its electronics industries.

"The study documents a continuing downward slide in the R&D intensiveness of the five industries that account for 81% of the U.S. industrial investment in technological innovation—electrical equipment and communications, aircraft and missiles, professional and scientific instruments, machinery, and chemicals."

3. In a 1973 issue of *Scientific American*, there is an article in a section called "Science and the Citizen" under the heading, "The State of Science." You will find the following statement:

"How does one measure the health of a nation's science and technology, particularly at a time when U.S. science is believed to be suffering from a drastic loss of public support? The National Science Board of the National Science Foundation is attempting to make such a measurement by developing a body of data that 'would reveal the strengths and weaknesses of U.S. science and technology, in terms of the capacity and performance of the enterprise in contributing to national objectives'."

I find the following significant: "Although the board avoids drawing conclusions, the picture that emerges from its survey of resources is a descending curve."

4. In the May 12, 1973 issue of *Business Week*, you will find the following heading: "R&D is Losing Its High Priority: The Shift is Away From New Product Development. Is Research Too Costly?" The following paragraphs are worth repeating:

"Your profits are at an all-time high. Your customers are buying your latest products faster than you can manufacture them. Your researchers tell you they have lots of ideas for new products just waiting to be developed. So, naturally, you step up your R&D spending, hoping to beat your competitors to market with that new model.

"It certainly sounds like the right scenario for 1973. But it is just not happening. According to an industrywide survey released this week by the McGraw-Hill Economics Dept., business is reluctant to increase its spending for research and development. And much of the money that is going to R&D, surprisingly enough, is aimed not at finding new products or processes but rather at improving existing ones.

"New Goal. Most startling of all, many companies are shifting their research goals. Traditionally, research is supposed to pay off in new products or processes. But 44% of the manufacturers surveyed said that their main R&D goal was to improve existing products. As a result, development of new products seems to be slowing. By 1976, the survey says, only 13% of industry sales (\$135.7-billion) will be new products, down from the 18% that industry expected in last year's survey for 1975."

I would like to point out that these statistics were gathered before the onset of the current recession. The picture would be far worse if the figures were brought up to date.

In my opinion, this decline of the drive for new technology in the U.S. has been caused by several factors. The first is that there was an overemphasis on R&D in many of our industrial firms after World War II. In fact, Wall Street demanded that some arbitrary

amount of R&D be done in a company for it to be called a "growth corporation." Some money was spent on R&D without much planning and without a clear picture of what was expected or what quality of technical personnel should do the work.

R&D, particularly research, is a very risky business. One never knows just exactly what the payoff will be or who will benefit from it. Nor can one predict as to when the benefits will occur. *One thing, however, is certain*—that if long-term research is not done, then development will have nothing to develop and, ultimately, engineers will have nothing to engineer. Support of long-range research and advanced development must be done as an article of faith, based on past experience—experience that extends for hundreds of years. In practice, an arbitrary percentage of our gross national product must be spent on scientific research so that the progression of research, advanced development, product development, and detailed engineering must be carried out at a rate that will assure the continued growth of our economy.

Many of our corporations are no longer managed by their founders. The present day "professional manager" is often motivated by short-term interest only. He does not have any emotional involvement in his company's product, nor is he going to leave his business to his children.

Another factor that has caused the grim picture cited above is disillusionment among the major suppliers of venture capital with high technology investments. Many of the investments of the 1950's and 1960's did not pay off. Investing in new technologies is always fraught with great risk and almost certain losses. It is obvious that all new technical (and I imagine, social) developments cannot and should not be successful in even the best of all possible worlds. No intelligent society can adopt every new idea, even if the idea is better than the one before. Nor can one regulate the generation of new ideas to the exact number that can be adopted. In order to harvest the wheat, one must go through a great deal of chaff and a great deal of sand must be sifted to find a few diamonds. Therefore, investment in new technologies must, by the nature of the thing, be risky and the returns on the few successes accordingly great. Since private investment capital is drying up, I would strongly urge our Government to take steps to encourage private capital and, if necessary, provide investment capital directly to support the most promising inventions and innovations. This is done in many foreign countries.

There is a new program of Energy-Related Inventions at the

National Bureau of Standards. Through this program we can recommend to the Energy Research and Development Administration that grants be issued on promising inventions in the energy field. Consideration could also be given to encourage the Small Business Administration to provide capital to worthy technologies when private capital is not available.

Another factor that curtails the flow of capital into advanced technologies has been the high interest rates prevalent during the late 1960's and early 1970's. If money can double itself with relatively little risk in five to ten years, why should anyone invest in advanced technology or new inventions?

There are three ways by which a nation can improve its average standard of living. One is to be the happy possessor of very great natural resources which can be traded for desired goods with other nations. (For example, a small country that literally lives above a sea of oil.) Another method by which a country can improve its standard of living is to exploit the people of another country, as by robbing them. This was a popular procedure during the past centuries but it is becoming progressively more difficult to do and, hopefully, will become impossible in the future. The third and only way left to a civilized society, such as ours, is to improve our technology in such a way that the output of goods and services per man/woman hour of work continues to rise at a satisfactory rate. It is for this reason that I welcome the opportunity to testify here today.

In my mind, the advancement of technology is intimately interwoven with the operation of our patent system and I am dismayed by the many attacks made against this system and the efforts to limit the rights of the inventor and to reduce his incentives. This is done by well-meaning people in an effort to eliminate or to minimize some of the real or imaginary difficulties that they see in the performance of our patents.

It is difficult to say when the patent system was first invented. I have a written record of a patent issued 2½ thousand years ago by a leader of some government somewhere in Asia that granted an exclusive right to one of his subjects. In 1474, the rulers of Venice, Italy passed the first patent law that gave inventors and authors the exclusive right to their creation for a period of ten years. Since then all countries have adopted some sort of patent system with the exception of China, and I'm sure that China will adopt one too.

Nevertheless, I have heard it said that the patent system is unnecessary. The Department of Justice contends that inventors

will perform for pay. They also say that anything that needs inventing will be invented, whether there is a patent system or not. I have heard businessmen say that the reason there are patent systems in hundreds of nations is that all nations are stupid. Because some people put in a patent system, the rest had to do it in self defense. But if someone hadn't started it, it wouldn't be necessary at all.

Those that say inventors invent for money have missed the point. Invention is an art form. Likewise, the Justice Department is naive if it thinks that inventors work only for fun and glory. Inventors are motivated by both reasons. They enjoy it; they get paid for it. I once asked a Department of Justice lawyer if he liked law; the lawyer said "I love it." I then asked if he would practice law if he didn't get paid for it. He said, "Certainly not." Then why should I practice my business if I don't get paid for it? I have to live someway.

But obviously there is more to it than money. It is a matter of excitement; of doing what you like to do; and making a living out of it at the same time. Take out the excitement, the glory, the publicity or medals and citations, and you will destroy invention because as a business alone you will have trouble explaining the innovative process.

Invention is a form of gambling. One of my friends has compared the odds of the inventor and the horse player. A good race track pays 80 to 85 percent back for every dollar that is invested in it. If you look at the patent system and what goes into it and what the inventor gets back, you will find that most inventors will do better playing the horses.

Some inventors do make money, however. I made \$600,000 on my clock regulator. The fact that once in a while Jack Rabinow can make \$600,000 keeps other people inventing because there is a dream of getting that big chunk of money. The fact that I lost over \$700,000 on a phonograph is forgotten. It's like the Las Vegas gambler: he only dreams of the one who makes it; not the one who loses it.

I think this is a good system. Society should not give back every nickel. But it should pay enough to keep the inventors gambling.

The U.S. patent system is, in my opinion, if not the best in the world, certainly one of the best. It is not only outstanding in the details of its workings but particularly because it gives so much attention to the role of the inventor himself. While the system was

basically designed to benefit the public, it makes a special effort to reward and honor the individual inventor—something which many foreign patent systems do not do to any equivalent degree.

I have assembled some interesting statistics about the way our patent system has worked during the past 20 years. The number of patent applications in the U.S. has risen steadily from about 75,000 in 1954 to slightly over 100,000 in 1974. The number of patents issued has come up at a faster rate—from 35,000 in 1954 to about 80,000 in 1974. The larger increase in the number of patents issued, as compared to the number filed, has been due to the decreased pendency with which patents are being issued by the Patent Office.

A more interesting set of figures shows that the percentage of U.S. patents issued to domestic corporations has remained essentially steady at about 50%, with some decrease in the past decade or so. The percentage of U.S. patents issued to independent inventors, however, has fallen steadily from about 44% in 1954 to about 25% in 1974. An even more interesting figure is the number of patents issued to foreign corporations. This has been rising steadily from about 5% in 1954 to over 20% in 1974. (The number of U.S. patents issued to foreign independent inventors is negligible.)

The decrease of patents issued to independent inventors is particularly significant since many of our great advances in technology have come from them. In my opinion, inventors can be roughly separated into three classes. The first is the employee of the large corporation. The second is the middle group of inventors who are highly trained and who work either in universities, Government laboratories, small businesses, or, occasionally, for themselves. The third group is the basement tinkerer—that is, a man or woman who is not highly trained technically and who comes up with inventions which, commonly, are not of great technical significance.

When one studies the output of these three groups, one finds that the great advances in technology made in our lifetime (say, roughly from the 1930's to the present) were made by the middle group of inventors and were made outside of the laboratories or the engineering departments of the largest U.S. corporations. Among these great discoveries are:

SOME IMPORTANT CONTRIBUTIONS OF INDEPENDENT INVENTORS AND RESEARCHERS AND SMALL ORGANIZATIONS IN THE TWENTIETH CENTURY

<i>Discovery</i>	<i>Inventor</i>
Atomic Energy	*
Computers	Eckert/Mauchly
Vacuum Tube	Lee De Forest
Xerography	Chester Carlson
FM Radio	Edwin Armstrong
Laser	Townes
Microwave Technology	*
Penicillin	Alexander Fleming
Radar	*
Inertial Guidance	*
Insulin	Frederich Banting
Catalytic Cracking of Petroleum	Eugene Houdry
Jet Engine	Frank Whittle/ Hans von Ohain
Mechanized Wiring (Printed Circuits)	*
Fiber Optics	Kapany
Flotation Glass	*
Magnetic Recording	Camras
Holography	*
Oxygen Steel-making Process	C. V. Schwartz/J. Miles/ R. Burrer
Heterodyne Radio	Reginald Fessenden
DDT	J. R. Geigy & Co.
Streptomycin	Selman Waksman
Gyrocompass	A. Kaempfe/E. A. Sperry/ S. G. Brown
Cyclotron	Ernest O. Lawrence
Rockets	Robert Goddard
Titanium	W. J. Kroll
Shell Molding	Johannes Croning
Cotton Picker	John & Mack Rust
Shrink-proof Knitted Wear	Richard Walton
Dacron Polyester Fiber "Terylene" ..	J. R. Whinfield/ J. T. Dickson
Zipper	Whitcomb Judson/ Gideon Sundback
Automatic Transmission	H. F. Hobbs

<i>Discovery</i>	<i>Inventor</i>
Self-winding Wristwatch	John Harwood
Continuous Hot-strip Rolling of Steel	John B. Tytus
Helicopter	Juan de la Cierva/ H. Focke/Igor Sikorsky
Mercury Dry Cell	Samuel Ruben
Power Steering	Francis Davis
Color Photography	L. Mannes/ L. Godowsky, Jr.
Air Conditioning	Willis Carrier
Polaroid Camera	Edwin Land
Ball Point Pen	Ladislav and George Biro
Cellophane	Jacques Brandenberger
Tungsten Carbide	Karl Schroeter
Bakelite	Leo Baekeland
Velcro Fasteners	George de Mestral
Hovercraft	Christopher Cockerell
OCR	Dave Shepard
Long Playing Records	*
Magnetic Core Memories	*
TV Tape Recording	*
Continuous Casting of Metals	*
Foam Rubber	*

* Cannot be attributed to any one individual.

The two great advances in our technology that were made by large U.S. corporations were the transistor, which was made at Bell Laboratories, and the modern TV system, which came from RCA. I realize that this list is by no means complete and some items can be debated. Not being a chemist, I did not include the significant chemical patents. Nor do I want to belittle the great technological contributions made by large companies which adopted the great inventions made outside, perfected them and put them on the market. Useful technology consists not only of the brilliant breakthroughs that earn Nobel Prizes but of thousands upon thousands of important and lesser-known contributions that make the great breakthroughs practical and useful.

The reason that big corporations do not produce more of the major inventions is a practical business problem. They already have established product lines and a large investment in producing, servicing and maintaining those products. A radical change is the

last thing a large corporation wants. They want improvements and day to day minor inventions which are very valuable to them, but don't deserve any Nobel prizes.

At the other extreme are the backyard inventors and garage tinkerers. These are the people that produce the perpetual motion machines, or the automobiles that run with windmills on top of them that charge the batteries that run the wheels, etc. They rarely have the training or sophistication to make major breakthroughs.

Therefore, it is the inventors in the small company or university who make most of the progress. They have the training and sophistication and perhaps the profit motive to make major contributions to our technology.

Therefore, if the future of the country depends on giant steps forward in technology, as I believe it does, we must make sure that the opportunity and encouragement of the independent scientist and inventor must not be reduced in any way. In this connection, I would like to quote a statement from a study made by a well known economist, Professor Edwin Mansfield, in the *Journal of Political Economy*, August 1964. Professor Mansfield "found that holding R&D outlays constant, the number of significant inventions made by large firms in the chemical, petroleum, and steel industries declined as the size of firm increased. Thus, contrary to popular belief, the inventive output per dollar of R&D expenditure in most of these cases seems to be lower in the largest firms than in large and medium-sized firms."

Since I say the American patent system is so great, why am I concerned? My concern is that I have been told by very high officials of several of our large corporations that many very large corporations (but by no means all) feel that they do not need a patent system, that they do not earn any appreciable percentage of their profits from royalties and since much of their research and patent work is done as a defensive mechanism against outsiders, they can prosper perfectly well on their ability to produce, sell and service their products better than any smaller competitor. For the small innovative company, however, patents are an absolute necessity; the risks are high and the protection must be available at least for some time so that a company can get a chance to grow. Thus, the patent system suffers from a lack of support from some of our largest corporations—a lack of support which is never expressed and which I cannot prove or document.

A second, and a much more direct attack on the patent system, has been carried on by the Antitrust Division of the Department of

Justice for many years. I have heard some of them say, publicly and privately, that they believe in the patent system of the U.S. but that it has led to many abuses and monopoly practices which they would like to curtail. I have no quarrel with the Antitrust Division when they so ably fight excessive use of monopoly power. I agree with them that if patents are used in ways which are outside of the intended patent protection, such practices should be stopped. However, I would like to point out to the Antitrust Division that a strong patent system that encourages and protects inventors is one of the best defenses against monopoly power. In their attack on the alleged abuses, they have attacked the whole patent system and have tried to weaken it. For example, in many important court cases where patents were involved, the Department of Justice entered as a friend of the court on the side against the owner of the patent. I know of no case where the Department of Justice entered the case on the side of the inventor.

Perhaps the simplest way to illustrate their point of view is to cite an article by Morton Mintz in the Washington Post on December 4, 1972. The headline reads, "Justice Asks New Patent Procedures." The article quotes Bruce B. Wilson, a deputy assistant attorney general, as follows: "He cited 'a rather horrifying statistic': that 'more than 72 per cent of the patents which have been litigated in the Courts of Appeals since 1966 were held invalid'." What Mr. Wilson did not cite is that this 72% is 72% of less than 1% of all patents issued, and one could very well question whether the figure is at all significant. The article concludes, however, with Mr. Wilson's proposal of "the creation in the Justice Department of a new public patent counsel division that, on a *selective* basis (emphasis mine), would appear before examiners and the Patent Office Board of Appeals to argue against the issuance of a patent". This is a most interesting proposal. It means that the Justice Department would entangle the applicant for an important patent in a difficult and expensive procedure whenever the Justice Department, and not the Patent Office, did not want the patent to issue. Heaven knows it is difficult enough to get a patent now and to make it economically viable later without the uncertainty of a possible fight with the Justice Department.

I would now like to quote from a speech that Judge Simon H. Rifkind delivered during the October 1972 meeting of the American Patent Law Association. The title of his talk was "Patents and Antitrust—Time for a Divorce." In this speech, he made several points. I would like to quote the following:

"As I read the Constitution, I find that the Founding Fathers regarded the progress of useful arts as a value of very high natural priority and, in order to promote the realization of this value, they authorized the creation of a patent system.

"The authority which the Constitution extended has been exercised from the very beginning of our national existence. Certainly I do not have to tell this patent bar association that the first patent law was passed, I think, in 1790.

"A few years ago the President's Commission on the Revision of the Patent System made extensive inquiry into the subject and arrived at a unanimous opinion that the patent system had well served the nation's interest and that it continues to serve it. Let me read you the quotation.

'The members of the Commission unanimously agreed that a patent system today is capable of continuing to provide an incentive to research, development, and innovation. They have discovered no practical substitute for the unique service it renders.'

"That is high praise indeed for an institution which has been with us throughout the life of this nation, from its inception to this very day.

"Now let us look at a companion statute, the antitrust law. In comparison, the antitrust laws, although they are rooted in the common law, have no sanction in the Constitution itself, at least no explicit sanction. The power to enact the antitrust laws is derived from the commerce clause which is, of course, a blanket of tremendous magnitude.

"Federal legislation on the subject did not appear on the statute books until 1890. I should say, in comparison with the patent system, it is a relative newcomer.

"Despite this disparity in age and dignity, I think you will all agree with me that the Supreme Court regards the patent system with a jaundiced eye and treats it as subordinate to the policies expressed in the antitrust laws.

"The antitrust laws are invariably given an expansive reading, as expansive as the language will tolerate."

His conclusion is very definite: "I should like to suggest, ladies and gentlemen, that the time has come for a divorce between patents and antitrust. As part of the divorce, I propose that patents resume their maiden name and no longer be called monopolies. I would like to suggest that patents not be subject to an antitrust defense. If the licensee or the infringer really wants to assert an antitrust claim against the licensor let him do so by an independent action but let the patent litigation proceed as a patent litigation."

In 1965, President Johnson appointed the President's Commission on the Patent System and on November 17, 1966, this Com-

mission issued a report with its recommendations. The Commission, in discussing the antitrust laws in relation to patents, stated clearly that they did not wish in any way to suggest a weakening in the antitrust laws. They did say that there has been some difficulty in interpreting these laws in reference to patents. They recommended as follows: "All that the Commission believes to be required is explicit statutory language defining, for the purpose of assignments and licenses, the nature of the patent grant heretofore recognized under the patent statute or by decisional law. This is a right to exclude others from making, using and selling the patented invention."

As a result of this report, there were bills introduced in Congress that essentially followed all the recommendations. In relation to antitrust laws, however, there wasn't a single mention.

I had the honor of testifying before a Senate Subcommittee on Patents in 1967 on how an inventor reacted to one of the new bills. I stated that while the bill was a valid attempt to simplify some of the patent procedures, most of the recommendations of the committee and the elements of the bill were to limit the rights and freedom of the inventor. Relative to the antitrust provision, I stated that while I had no argument about the relationship of the antitrust laws with the patent laws, I felt that the relationship could be clarified by an Act of Congress—that an inventor has a right to know what his rights are so that he can plan his business deals accordingly. When he issues a license or sells a patent, he should know whether he will or will not run afoul of the antitrust laws.

Sometime later, the National Inventors Council had the pleasure of discussing a particular patent bill with a member of the staff of one of the Senators involved. When we asked why there was no mention of the antitrust-patent relationship in the bill, even though the President's Commission recommended such a section, we were told that the Antitrust Division of the Department of Justice violently opposed any such legislation by Congress and that they preferred to have case law. This situation prevails to this day. It is my opinion that laws made by judges, as a result of cases carefully selected by the Department of Justice or by others, are not the best way to create laws in a democracy. I do not believe that patents are monopolies. I am happy with the definition made by the Supreme Court before the turn of the century that a patent represents a piece of property and while the rights of patents can be abused, the abuses are no different than those of the property of land or any other.

If the Department of Justice feels that some of our very large corporations use patents to create monopolies far beyond those envisioned by the patent laws, they should suggest changes in the law which pertain to very large companies, or to specific abuses, and not attempt to weaken the whole patent system in general so that it adversely affects all inventors, many of whom would not dream of violating the antitrust laws.

Senator Bentsen raises the question of how we can improve the performance of Government scientists and, particularly, how we can improve the relationship of the Government scientists and engineers and those of the private sector. The answer, it seems to me, is to have as much expertise in the Government as possible, and this can only be done if the technical work in the Government is of the highest quality.

I hope I shall be forgiven for boasting when I point out that the National Bureau of Standards, because it does a great deal of its work in-house and because of the excellence of its staff, has outstandingly good relations with industry. It has the respect of the industrial technical people—a respect it could not have if it were merely a contracting agency and if its technical staff merely sat at desks and handed out money.

In the ordnance business, I can cite the quality of work done by the Harry Diamond Laboratories, with which I had the honor to be associated many years ago and, again, the reasons are the same.

If industry is to respect the Government people and Government work, the Government must have high grade scientists and engineers. To attract them, to hold them and develop them, it must do considerable R&D work in its own establishment. I am very happy to have heard representatives of the Office of Management and Budget, at a recent meeting, say that they recognize this fact. We, the engineers who work in Government, have always known this.

I have often been asked what should the policy of the Government be relative to those patents which it owns; that is, what should be done with the inventions made by Government employees or Government contractors? This is a difficult question. First of all, the number of patents per dollar that result from Government R&D is approximately equal to less than 2% of the number of patents per dollar which result from industrial R&D. Why this is so, I can only guess and I would not like to go on record with my doubts and suspicions.

The present policy of the Federal agencies relative to the patents

owned by the Government is, to say the least, a hodgepodge. While some agencies follow the rules broadly laid down by the Memoranda from Presidents Kennedy and Nixon, the rules vary a great deal. Some Government agencies have statutory powers while others make decisions based more or less on precedent. The bill setting up the Energy Research and Development Administration (ERDA) states that wherever the invention was made as a result of Government contribution, ERDA takes title to the patent. However, the Administrator of ERDA has the right to issue exclusive or other limited licenses when, in his opinion, this is in the public interest.

The difficulty with such permissive legislation is that if the Administrator of ERDA is a brave and wise man, the policy is excellent but if he is afraid of criticism, then the safest thing would always be to take title. I believe, therefore, that it would be wise to pull all the different rules together and establish, by law, a unified but flexible Government policy which would spell out under what conditions the Government should take license and under what conditions it should issue exclusive or other kinds of licenses. An invention of a weapon has to be treated differently from an invention of an automobile clutch, and an invention for the cure of cancer does not need the same promotion as an invention for a computer memory. It is my sincere belief that, wherever possible, the Government should give full exclusive licenses to the inventor or to the company for which he works even though the Government paid for the work that resulted in the invention. I say this not because I would like to see the inventors rewarded or become rich. This is really a minor consideration, except in an indirect way of encouraging other inventors. The main reason for saying this is that a patent which is free to everyone is not a patent at all and the whole intent of the patent system as an incentive to investment and innovation is destroyed by a free and/or universal licensing policy.

During World War II, the U.S. Government confiscated some 15,000 German and other enemy-owned patents. The Alien Property Custodian made them available free to any American corporation or individual who wanted to use them. The patents died on the vine. Our Government, at present, holds title to some 22,000 patents. The experience in freely licensing them is also far from encouraging. Society would be better served if an invention went into production even though the inventor or his backers were to make money on something which the Government had financed.

There have been suggestions made that when the Government

lets one of its inventions go into private hands it should collect royalties to recompense it. To me, this is a rather childish suggestion because the U.S. Government is automatically a 50% partner in any profit that anyone makes on an invention. This 50% refund of the profits in the form of income taxes goes on not only during the life of the patent but forever or, at least, for the life of the corporation or the inventor. Moreover, the procedures for collecting Federal taxes on income, to say nothing of other Federal, State and local taxes, are much simpler than the collection of royalties with its contracts, inspections, and many legal problems.

In the testimony of Thomas E. Kauper, Assistant Attorney General of the Antitrust Division, Department of Justice, before the Subcommittee on the Environment Committee on Interior and Insular Affairs on February 1, 1974, you will note that in the case of Government-financed inventions the Department of Justice takes the position that they believe in the "title" policy of the Government; that is, the Government should own the rights to those inventions where the Government paid for the R&D work. He also states that the Department of Justice believes in the mandatory licensing of inventions, even when they are developed independently of Government support, when the Government or a court feels that such mandatory licensing is reasonably necessary for the common good. This is difficult to argue since the U.S. has no mandatory licensing except when the Government wants a license for its own use. It is difficult to foresee how this would work out. This is another illustration that when patents are discussed by the Antitrust Division of the Department of Justice the drive is always to limit the rights of the inventor. I know of no case where the reverse was true.

I do not believe that the Patent Office should impose maintenance fees on patents, as is being proposed in Congress today. Some of these bills will make the inventor pay \$2,000-\$3,000 during the life of the patent, in addition to the initial filing fees. This is common practice in Europe and I can testify from my own experience that this leads to abandonment of patents before the patent rights would normally expire. If the fees are intended to simply pay the Patent Office for its expenses, then I would suggest that this is not justified. The Patent Office benefits society far more than it benefits the inventor. These maintenance fees will make many inventors abandon patents before the payments come due and, in my opinion, this is simply a way of shortening the life of a patent and further reducing the rewards and motivation which the

patent system is supposed to provide. I have been told that the income to the U.S. from abroad, in hard cash, based on royalties collected from foreign corporations, is more than \$1 billion a year. It seems obvious that the taxes on this money (to say nothing of the taxes on the money earned in patents by U.S. corporations at home) are far greater than any possible cost of the patent system.

If we really want to know one aspect of the direct economic value of the U.S. Patent System, then I suggest that the Internal Revenue Service add one line to its present tax-return forms. The line should read: "Royalties on Patents." By adding up these amounts, we would finally know whether the Patent Office fees really need to be raised to make it "self supporting," even in a simple-minded, direct dollar-and-cents way.

If we really want to improve the patent system of the U.S., a study should be made of the abuses in which patents may have been involved and the laws should be modified to correct these abuses. The whole patent system should not be weakened and the rights of the inventor should not be reduced at a time when we need more technological advancement to improve our balance of trade and improve our standard of living.

The Patent Office has progressively more and more difficulty in examining patent applications, both because the number of documents that have to be examined is constantly rising and because the sophistication of the technology is continuously increasing. I, therefore, urge the Congress to permit the Patent Office to increase both the quantity and the quality of its examining staff.

Our laws should be clarified so that the courts would have a better basis by which to judge the validity of a patent. I find it strange and incomprehensible that in certain districts in the U.S. the courts never hold the patent valid and, in some districts, more than one-half are held valid. I think the definition of what is an invention, what is obvious, and what is not obvious can be formulated. I sincerely hope that these technical matters and the rights of licensing could be clarified by the Congress. I urge this committee not to support any legislation that weakens the patent system and reduces the incentives to inventors and their backers. If there are any problems, we should not "throw out the baby with the bath water."

Patents, Inventions & Innovations

JASON WEISMAN*

This paper was presented at the 1976 PTC Seminar on Innovation.

I have worked with individual inventors, the venture capitalist, and people who run all types of technical, innovative companies. They all need patents. However, they need what they think patents represent, not the imaginary situation we are involved in today. Patents have suffered from inflation, although fortunately most people don't know it. They take the piece of paper at its true value. The document with the big red seal still gets people to stand up and salute.

Unfortunately, I do not know how to revitalize the patent system. I am not a policy maker. I work with or around the existing government regulations and procedures. Mr. Rabinow discussed how you get around some of these. Many of you think that he's been exaggerating, but he was laying it right on the line. That's the way it is, you don't have to like it, but that's the way it is.

What is the importance of patents? Individual inventors may be motivated by the glory and the love of invention, but they also look to the protection that patents are supposed to offer as a guarantee of the financial remuneration they expect. Coming up with a new invention is a very large effort and a very large sacrifice. It requires

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a lot of work, time and, quite often, money to get through the experimentation stage. The inventor looks to the patent as one way of meeting his financial objectives and recovering his investment.

The patent is magic to the investor with venture capital. Whether the protection offered is real or imaginary, the patent is still a means for getting the person with the money to sit down and talk with you. It is vital for his feeling of protection.

I think it has another value, as well. Many of these investors don't have the sophistication one might expect them to have. They have money, and therefore are prime targets for promoters of new things. To them, the patent says, "I have something different, something unique." This lends credibility to the fellow who is asking for the money. This is extremely important in starting new enterprises based on new technology. It makes the investor feel clever. He is buying into something new and something unique; he is buying into something that is protected and something that will yield a return. The patent is valued. I am not an extremist who says it is absolutely necessary, but it is very close to being that way.

I have been affiliated with a number of small, technical companies. Several of them have become companies that make something more or less like other people make—a little better, a little cheaper perhaps. They survive and even prosper and grow a bit, but they are not bringing anything significant to the national scene. In contrast, the companies headed by inventors who believe in patents and the patent system definitely have contributed to the process. You can draw your own conclusions as to what it would mean if the validity of the patents changed enough so that the inventor lost faith.

To sum up this point, I want to make sure that the people who are decision makers or who influence decision makers in the technological community, the people who create new companies and generate industrial growth, look to the patent system and believe in it. I would hate to think that the type of discussion we've had here today might become widespread and common knowledge in the industrial community because it would have a very harmful impact, particularly on the type of individual who supports the start-ups of very small companies.

A second topic I would like to discuss is the role of regulatory agencies relative to the introduction of new technology. What happens once the invention is made and you've received the patent? How do you use it? How do you get the new product into the market? Too often the momentum is lost at that point, often

because of government inaction. Let us consider a process that has desirable environmental characteristics or offers energy savings or other benefits to the community. If that process were available, patented, and the property of a properly financed company, it would seem that a regulatory agency would be willing to hold a hearing to consider potential changes in regulation that would take advantage of the lower pollution levels that the invention would make possible. Instead we sometimes see the reverse of this. The agency should say that there is now an invention which will allow industry to meet or exceed planned emission standards and that it plans to enforce those standards because the technology exists. Instead, agencies lower their standards. I think the regulatory agencies must get in tune with what is available to meet their objectives rather than change those objectives.

Consider an energy saving device. Because you cannot get a single-minded or single purpose statement of the government policy on energy, customers look at the equipment but will not make a commitment. They are delighted, but they say, "Well, we don't know. Last winter our fuel supply was shaky, but this winter, we're not really too sure. Prices are up, but not that much, maybe they will go down a little bit."

Government agencies are not making their policies and their regulations consistent with new inventions entering the marketplace. When an invention takes place that would permit significant improvement, but requires a capital expenditure or a major change, everyone fights the change. They did this in the textile industry over fire retardant fabrics. They said "We've been doing it this way; we don't want to be bothered; we don't know what the results will be and so forth." The same is true in sterilization standards. Today's technologies use toxic acids which leave residues. Better techniques are available, but there's no pressure on the part of any government agency to introduce these new techniques.

It's much easier to go along with what you know and what you've got. Everybody is happy. "We've been buying from that supplier for a long time. We play golf, we enjoy a summer cruise." When you've got vested interests, you don't want change. The inventor has done his job. The venture capitalist has done his job. But the agencies who are running the act don't want new things. And they are the ones setting the sterilization standards, the flame retardancy standards, the pollution standards.

Another problem is that new firms with new products can be

beset by government regulations which were promulgated before either came into being. Existing regulations are twisted until they apply to the new product and new firms often find compliance difficult. The agency may not understand the new product or concept. To protect themselves, they will try to withhold approval, to deny permission, and will give the new company a hard time. They do not want to accept the risk of allowing something to go forward that they don't understand. This is because they often don't understand. This is because they often don't have the backgrounds or technical competence to properly evaluate the new idea.

In contrast to this are the direct and indirect attempts of the government to introduce new products into the marketplace. I am not sure this is right. I am not sure the government should do this but, on the other hand, at times one can use their help. It is all right if I get it, but maybe it isn't good for everybody else.

Whether I like it or not, the government is in the promotion business too. There is RANN (The National Science Foundation's program for Research Applied to Natural Needs). There are other organizations which are supposed to spend government funds to help bring technology to the marketplace. I am not sure it is always well spent. Most of what I see goes to universities, non-profit organizations, and so forth. And I am not sure what results—what effects—that has.

Any time one introduces a new product or a new piece of equipment, there is always a great deal of uncertainty. You hope to save energy, to lower pollution, but will the unions rise up in arms because you're introducing something new? There are a great number of uncertainties that make industry slow to accept improvements particularly when there is no data available to evaluate risks and it is expensive to get the information. Maybe the government should assist in attaining this type of data on end product once it's been patented and has proven itself in the laboratory and in the pilot stage, if it could greatly benefit a large sector of the country, and if it might otherwise be delayed because of the lack of a convincing demonstration in the real world. For example, Company A, a major company, might be willing to introduce a new machine on a local basis, not to produce financial results, but to monitor the operating results and benefits of this new process. The company would do all this with its own money, its own people and its own expertise if it had a government guarantee to protect it from a totally unforeseen failure.

Perhaps the government would at that point guarantee or insure

the equipment portions alone. We see many instances when companies are willing to do this. They will absorb a great deal of the expense. They will absorb the cost of installation, the cost of their own people, the cost of buying raw materials, etc. They are willing to take the operational risk. It is in the capital purchase itself where the guarantee would be a great help.

What I'm suggesting is that there are a number of routes by which the government could assist the direct introduction of a new process to industry.

In summary, government policy can affect the flow of invention and innovation either positively or negatively. Yet this flow is vital to sustained economic growth. Any discussions of how government action can best be channeled to aid the smaller company and the smaller inventor would be extremely useful.

Patent Rights: Motivating Technical Progress

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If the government buys a truck from a manufacturer, there is no question as to who holds title to the truck. The government pays for it and by accepting payment the builder relinquishes his interest in the vehicle. It is, of course, the government's truck.

Suppose, however, that the government contracts with a company to develop and build a new type of truck and report the findings of the research involved. Here again, there is no doubt that the government owns the new truck and the research report; the contract called for a new type of truck, the contractor made and delivered such a truck.

But what if, in the course of the project, the company makes an invention? The contract did not demand an invention and the contractor is paid exactly the same whether or not an invention occurs. That raises these questions:

Should the invention belong to the government, even though it did not pay for the invention?

Or would it be better that the company retain the invention, because the framers of the Constitution clearly had that in mind when they provided for patent protection as an incentive to invent?

Allocation of Rights Complex

The matter of allocating invention rights under government dealings is complex. It is a subject that has been debated ever since the federal government began contracting with industry for research and development. It is still being debated.

In practice, invention rights may go either way—depending on which government agency sponsors the contract and the subject matter of the contract—for there is no uniform federal policy on rights related to government contracts. Generally, there are two policy categories: the “title policy,” by which the government takes title, and the “license policy,” whereby title remains in the contractor.

The governing principle should properly be which policy most benefits the people of the United States; strictly speaking, it is not a government bureau that pays for the R&D program, it is the taxpayer. It must be remembered that companies which contract with the government are also taxpayers.

There are two principal camps of opinion. One holds that public interest is best served when the government retains title and makes the invention “freely available” through licensed commercialization of the invention or by some other means. The other maintains that the government’s track record with regard to commercialization is poor and that the public gains nothing when the government takes title because this inhibits exploitation of the invention. Instead, the latter camp argues, leaving title in the inventing firm provides an incentive. It also assures the product’s earliest commercialization and thereby benefits the public by satisfying public needs, providing new jobs, improved products and services. That is the basic premise behind the U.S. patent laws.

Development of the Patent System

The “old world” patent concept dates back as far as 600 B.C. The first American patent on record predates the founding of the nation by more than a century; it was issued by the General Court of colonial Massachusetts in 1641.

In 1790, the developers of the U.S. Constitution incorporated into Article One a provision for patent laws “to promote the progress of . . . useful arts.” The idea was to encourage invention by granting to inventors exclusive rights to their discoveries for a limited period of time, thus fostering development of new technol-

ogy for the benefit of the national economy and the national standard of living.

Under the Patent Act of 1790, an inventor got top-level treatment. His patent application was administered by a board composed of the Secretary of State, the Secretary of War and the Attorney General, and the patent grant was personally signed by the President. The first post-independence U.S. patent, issued on July 13, 1790, went to Samuel Hopkins of Vermont, who invented a new way of treating wood ash to produce lye for soap-making.

Blue ribbon handling of patent applications was obviously impracticable in a growing nation, so in 1793 a new law made the patent system a clerical function. Over the next three decades, some 10,000 patents were granted by the government.

Standards for the World

The modern American patent system, established in 1836, set a standard for the rest of the world to follow. The main provision of the 1836 law required that a patent be issued only after a thorough investigation of the novelty and usefulness of an invention to prevent duplications and lawsuits, such investigation and administration of the grants to be handled by a new government organization, the Patent Office. Although the law has been amended often in the 140 years since its passage, it has undergone little, if any, substantive change.

In the nineteenth century, the Office of the Commissioner of Patents operated for a time under the State Department, then under the Department of the Interior. Since 1925, it has been a part of the Department of Commerce.

The term "patent" is itself fully descriptive of one of the basic concepts of the law. "Patent" is a short form of "letters patent", or letters open to public perusal, a term used in earlier times to describe a government document that conferred some special privilege. The word patent comes from the Latin *patere*, meaning to reveal. In seeking a patent, an innovator *reveals* to the authorities the details of his invention so that the patent office may determine if it is really new and to what extent—so that the public may benefit by the disclosure.

As a matter of process, the inventor files an application with the Patent Office, submitting specifications, drawings and testimony as to the novelty of his invention. One tends to think of inventions as machines, but they can be many things—processes, for example, or

chemical compounds or manufactured articles. After investigation, the Patent Office makes a determination based on three characteristics prescribed by law:

- The invention must really be inventive, that is something not previously known or existing and not obvious. A different-size version of an existing product would not be an invention, nor would an equivalent system which performs the same function without improving the operation.
- It must be “new,” not in the accepted sense of the word but in a broader sense, “new” meaning that it has not before been used or made public or otherwise available.
- It must be “useful.” In practice, this requirement is liberally construed; practically everything is “useful” if it is not downright injurious.

If the Patent Examiners are satisfied that the invention meets these conditions, a patent is granted giving the inventor exclusive rights to his invention for a period of 17 years. Actually the patent grants the owner the right to exclude others from making, selling or using the patented invention; as a practical matter it permits the owner to make, sell or use the product himself, or to license others to use, produce and market the invention, taking a royalty fee as a reward for his ingenuity. Additionally, a patent has the attributes of property, so the owner may sell or assign it.

The American system of granting patents on new inventions is basically a good one, serving a number of purposes:

- It rewards inventive contribution to technological advance by providing protection with regard to use, production and marketing.
- Such protection encourages early disclosure of technological information, reducing the likelihood of duplication of effort and giving impetus to further advances in related technology.
- The prospect of financial gain inherent in patent protection offers incentive to invent, to spend the time and money which innovation demands.
- Similarly, it stimulates the investment of additional risk capital needed to develop and market the invention.
- It encourages competitive research and development, because a patentee's rivals must come up with further advances if they want to remain competitive.
- By providing protection for the industrial property of foreign

nations, the system promotes beneficial international exchange of technology.

In short, the patent system fulfills the intent of its creators to benefit the people as a whole by providing incentive and impetus to technological advancement. No one has found a practical substitute for the unique service it affords. Though the machinery of patent grant and administration works reasonably well, there is question as to whether policies regarding the allocation of patent rights in government procurement activities are meeting the original Constitutional mandate: "To promote the progress of . . . useful arts."

Government in R&D

Prior to World War II, U.S. government research and development was largely an in-house effort of moderate scope, focusing for the most part on agricultural improvements and development of land resources. The exigencies of war rapidly changed the picture. Of necessity, the government initiated R&D programs in a broad spectrum of war-related areas, such as aeronautics, electronics, and nuclear energy. Thus launched on an expanded R&D effort, the government continued an even broader and ever-widening program in the postwar years. Government laboratories and technical staffs similarly grew, but the enormous scope of the program dictated more and more dependence on industry-contracted R&D. Today the great majority of all government-sponsored R&D programs is conducted, as a matter of federal policy, by industrial firms.

In the evolving government/industry relationship with regard to R&D contracts, the matter of patent rights inevitably became an issue, because inventions were being produced in the course of these contracts. Generally, the old-line government agencies continued to employ their pre-war policies—the Department of Agriculture, for example, kept the title policy (government title-taking) while the Department of Defense favored the license policy, in which the contractor retains title and DOD gets a royalty-free license to use an invention made in the course of the R&D contract. Agencies created since World War II, such as the National Aeronautics and Space Administration and the Energy Research and Development Administration, are wedded by Congressional mandate either to the title policy or to a statutory requirement that is implemented as title policy.

Other agencies whose policy is not spelled out in law are gov-

erned by a Presidential Patent Policy Statement but for the most part tend to adopt the government-title-taking approach. In all cases there are exceptions; there are instances where a title-policy agency will waive title to the contractor or grant him an exclusive license (rather than the customary non-exclusive license) as an incentive. That title policy predominates is evident in the fact that the government takes title to almost 80 percent of inventions made in the course of government work.

Aerospace Industry View

The aerospace industry, which conducts most of the government's contracted high-technology research and development programs, believes that the public interest is best served by having the patent rights to inventions produced in the course of government contracts remain with the contracting firm. These are the principal reasons:

When the government contracts for R&D, the objective is development and delivery to the government of an end item—a device, a system, a technique or a report. Nothing in the contract requires the company to invent anything; when an invention occurs, it is coincidental to the performance of the contract. The government is paying for the specified end item; it is not paying for the coincidental invention.

Conceding that individuals are compensated for their services generally in proportion to the value of such services to their employer, and that the patent system provides an effective incentive to individuals to invent through the grant of exclusive rights, it follows, if the system is to work, that these rights must remain with the individual or the employer who compensates him for his services. In other words, where neither the individual nor his employer is permitted to retain exclusive rights to inventions, the patent system offers no reward for invention. Hence, the benefits normally available under the patent system are lost in government sponsored R&D when the government takes title to inventions.

Contractor retention of patent rights in no way denies the government the use of the invention, because in every case the government acquires a non-exclusive license to use the invention without paying royalties.

In some instances, the possibility exists that the contractor may lose valuable patent rights even when the company pays for the research with private funds. Most contractors who deal regularly

with the government carry on extensive, privately-funded Independent Research and Development (IR&D) programs aimed at producing new and improved products and generally expanding the company's technological capability for better competitive posture. Since IR&D is aimed at future sales, such effort is naturally directed toward government needs; therefore, privately-funded IR&D programs often overlap with similar government-funded programs being carried out by the same company. In such cases, the contractor may be barred by the courts from enforcing against the government patent rights obtained on inventions occurring in IR&D. Also, in some cases contracts are so worded that, even though an invention has been made and patented, if it is first built or successfully demonstrated under the contract the government acquires rights and even title to the patented invention.

Patent rights are Incentives

In carrying out IR&D, a major incentive to the contractor is the patent rights he might obtain for advanced products. If he stands to lose these rights by virtue of program similarity, he also loses competitive standing—and, of course, incentive to compete for government work. Thus the government also loses the obvious benefit of privately-funded technological advancement.

In contracting for R&D, the government benefits from competition among industry firms. R&D programs, naturally, are best carried out by the most competent contractors, those who have the know-how, facilities and personnel talent to handle a challenging research assignment. But to make government R&D attractive to the most qualified contractors, there is need to protect the contractors' background patents and know-how, and a need for incentive—in the form of rights to inventions which may be produced in the performance of the contract but also useful in the private and export sectors. Government acquisition of these rights induces lack of interest on the part of the best qualified industrial firms, with the result that the government may have to accept second best—or third. This inevitably produces less innovation and a lower quality of work.

A study by Harbridge House, Inc., conducted in 1968 but still one of the most comprehensive reports on the subject, had this to say about the impact of title policy on industry's willingness to conduct IR&D and to compete for government-sponsored R&D work:

"The major adverse effects of (government) patent policy on participation are program delay, loss of participants, diversion of private funds from government lines of research, and refusal to use government inventions and research when questions regarding a company's competitive position are raised."

Making the Product Available

The Congress has frequently stated its intent that inventions made in the course of government work be made "available" to the public. That, of course, is exactly what the contractor has in mind—making the product available through commercialization. If he does not, government patent policy provisions require him to license other firms to make the invention available. Thus, making inventions available does not require that the government take title to them. There is no evidence in past experience that government title effects broader utilization of new technology; in fact, there is evidence that government title retention inhibits making inventions available to the public.

In short, the aerospace industry believes that the government should not be in the patent business or involved in the commercial exploitation of patented inventions. One must go back to the basic guideline, the Constitutional mandate which is the basis of the U.S. Patent System: "To promote the progress of . . . the useful arts." That aim is best met by providing incentives: incentive to invent, incentive to invest private capital for marketing inventions, incentive to insure early public disclosure of technology and its beneficial exchange across national boundaries. Those incentives are available only when the inventing company, not the government, retains title to the invention.

Implementation and Cost Effectiveness of Computerized Legal Research—Lexis and Westlaw Compared for Your Evaluation*

RICHARD M. MCGONIGAL**

The views expressed are those of the author and do not necessarily reflect the views of the PTC Research Foundation.

In attempting to analyze the effectiveness of computerized legal research and to compare the two major systems available to private practitioners of the legal profession, it is essential that one summarize his or her personal experience and involvement. I am a partner in the Cleveland, Ohio firm of Squire, Sanders & Dempsey, a firm now approaching the 200-attorney mark, but we were closer to the 100 mark when our firm became the test laboratory in 1969 for the first law firm pilot project for the Ohio State Bar Association Automated Research Project (better known as "OBAR"). OBAR is a non-profit subsidiary of the Ohio State Bar Association. Jim Preston of our firm, as President of the Ohio State Bar Association, initiated the project and served for some years as Chairman of OBAR, and I served as general counsel to OBAR

* Copyright © 1976 by Richard M. McGonigal. Originally presented before the Section of Economics of Law, Practice Seventh National Conference on Law Office Economics and Management held at Kansas City, Missouri on November 6, 1976.

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from 1969 through 1974. OBAR entered into full-text, computer-assisted legal research development agreements in 1967 with Data Corporation, which was then acquired by the Mead Corporation in 1969, and reappeared as Mead Data Central, Inc. The end product of the Ohio Bar crusade and commitment, and Mead Data's technology and dollars, is the LEXIS system. Since 1970, our firm¹ has been a substantial user of the LEXIS system and for the past year has developed substantial usage of the WESTLAW system. Our experience with LEXIS and WESTLAW has been extremely satisfactory, both systems are utilized by our attorneys extensively and effectively, and we have experienced a bare minimum of technical and downtime problems.

For the past two years, I have had no association with any group sponsoring any specific computerized legal research system, but have had the privilege of serving as Editor-in-Chief of *Jurimetrics Journal*, which is the official publication of the American Bar Association Section of Science and Technology. This Section has been charged by American Bar Association President Justin A. Stanley² with assisting in the formulation of a policy position by the ABA on the subject of public terminals and computerized legal research. As my report will indicate, it is not economically feasible for many lawyers to contract for any computerized legal research system through a private terminal installation, and Mr. Stanley has expressed the concern that, unless the ABA steps in, computerized legal research may not be available to general practitioners who either practice alone or in a small office.

The purpose of this paper is to discuss the practical impact of computerized legal research on the practicing lawyer and to compare the two major systems³ available to us at this time. Reference materials in computerized legal research systems are plentiful but are not that helpful for the purposes of this discussion. Both Mead and West have excellent brochures, which have been included in

¹ Since 1974, our firm has also subscribed to an effective automated case-citation verification system known as "Auto-Cite" and marketed by Lawyers Co-operative Publishing Company, Rochester, New York, 14603. See McGonigal, "Report on the Lawyers Co-operative Publishing Company's Automated Citation Testing Service ('Auto-Cite)," 16 *Jurimetrics Journal* 130 (No. 2, Winter 1975).

² Stanley, Justin A., "Address to Young Lawyers and General Practice Sections," 16 *Jurimetrics Journal* 258 (No. 4, Summer 1976).

³ While the United States Department of Justice has an excellent system known as "JURIS," this system is not available to the public at this time. See Sprowl, James A., *Manual For Computer-Assisted Legal Research* (1976, American Bar Foundation, 1155 East 60th Street, Chicago, Ill. 60637, \$.50—Pub. #1SBNO-919958-76-8).

your vendor materials. I encourage you to personally operate the LEXIS and WESTLAW terminals at the vendor exhibits and to communicate directly with both Mead at Mead Data Central, 200 Park Avenue, New York, New York 10017 (212/883-8560) and West at West Publishing Company, 50 West Kellogg Boulevard, St. Paul, Minnesota 55102 (612/228-2500). In addition to vendor materials, I have listed in the note below⁴ what I feel are the best materials, and I call your special attention to the excellent new *Manual for Computer-Assisted Legal Research* prepared by Jim Sprowl at the American Bar Foundation at a cost of \$3.50.

I am sure that one of your basic reservations concerning any computerized legal research system is the bottom line query of whether or not all the whistles and bells and lights and dollars are worth it. Well, I think they are, not only because computerized research systems perform a standard manual research task more quickly, but also because they have created a new mark in the research area. While legal research represents a major budget item for any lawyer both in terms of the cost of attorney time and of the physical library materials, it generally represents a task we would rather do without and it commonly is a "loss leader" item. Traditional manual library research requires the attorney to examine a client fact situation and to then locate a theory of law. The actual searching for cases with a similar fact situation begins with an analysis of a legal doctrine or theory rather than finding the theory based on the facts. The computer breakthrough in legal research has essentially been to free the researcher from the constraints of

⁴ 1. LEXIS:

- a. Harrington, William G., "What's Happening in Computer-Assisted Legal Research?" 60 A.B.A.J. 924 (August 1974).
- b. McGonigal, Richard M., "Computerized Legal Research: One Firm's User Experience," *Sense and Systems in Automated Law Research* (ABA Press, 1975) 113, and as later revised for Vol. XV *Law Office Economics and Management* 213 (No. 2, Summer 1974).
- c. Sprowl, James A., "Computer-Assisted Legal Research—An Analysis of Full-Text Document Retrieval Systems, Particularly the Lexis System," 1976 *American Bar Foundation Research Journal* 175.

2. WESTLAW:

- a. Halladay, Henry, "Legal Research with Westlaw," 61 A.B.A.J. 1414 (November 1975).
- b. Sprowl, James A., "The Westlaw System—A Different Approach to Computer Assisted Legal Research," 16 *Jurimetrics Journal* 142 (No. 3, Spring 1976).

3. General: Sprowl, James A., *A Manual for Computer-Assisted Legal Research* (1976), American Bar Foundation, 1155 East 60th Street, Chicago, Illinois 60637.

searching within a formal index for concepts or legal doctrines, and instead to permit the researcher to feed into a computer terminal a combination of words and phrases, which the computer in turn searches and locates cases with several theories and concepts. It should be noted, however, that the interface between the attorney and the data base is never quite as free and unrestricted as the vendor would have you believe, since software limitations are imposed in order to improve response time, etc., and the data file structure contains certain limitations including the extent of the vocabulary utilized by the respective judge.

Too often we forget just how difficult legal research is and yet just how important it is to our practice. Canon 6 of the Code of Professional Responsibility requires a lawyer to represent a client competently and to maintain a high level of competence. Computers speed up the research process but the sweat is still there, and the whistles and bells do not produce automatic answers. I think we must recognize that computer-assisted research still involves the individual lawyer's agony and toil and intellectual ability, and while the computer will provide speed and quality, the effectiveness of the output is dependent upon the researcher's input request and analysis of the computer response.

The principal advantage of computerized legal research lies in the quality and the accuracy of the end product. It is a fact that you can save time and money. There are computer searches one can run that are manually impossible to check out such as every case that defines the term "good faith," and there are other searches that take time under either method. However, the accuracy, thoroughness and certainty factors are outstanding with computer search. No printed text indices can even begin to anticipate the myriad of cross references essential for quality research, and it is in this area that I feel you cannot do without access to a computer research system. Thoroughness is the key, and I believe that these systems, particularly LEXIS, offer the most sophisticated and flexible cross-indexing tool yet developed.

The most significant problem encountered to date by computer research systems lies in user education and user resistance.⁵ The

⁵ In a paper entitled "The Education of Users of Scientific and Technical Information," presented by Carole Ganz at the NFAIS Annual Conference in March of 1976, Ms. Ganz reported that present scientific and technical information services are used only by a small proportion of potential users primarily because of a lack of user familiarity with available resources and the absence of sufficient instruction in accessing and using services.

familiar research methods are comfortable to most of us and it takes time to overcome this natural resistance and the concern as to whether the "black box" contains a complete and accurate data base. For the past four years all Ohio law schools⁶ have had LEXIS instruction in their legal research courses and it is refreshing to see the receptiveness of the emerging wave of young attorneys to computer research. For the rest of us, it is a new game, and the most disenchanting side of my close connection with computer research projects has been the discovery that the amount of research in total performed by the legal profession is not substantial and indeed borders on the dismally inadequate. With the incredible increase in research materials, we must find a way to quickly and economically acquire a good grasp of the applicable law so that we can adequately serve our client's needs.

One of the principal advantages of the computer research systems lies in their providing access to legal materials you do not have in your library. New decisions are in the data base before they reach your shelves. Decisions from other states found only in local reporters and unpublished opinions may be available. Regulatory materials, for example, the no-action letters of the Securities and Exchange Commission, are accessible. Moreover, other legal services are or will become available to computer research subscribers such as litigation support systems, private internal memoranda material, and legal form preparation.

In addition, the law business is becoming less and less confined to legal statutes and opinions. In the pollution game you need scientific articles, government releases, foundation studies, etc. and in the corporate game, business information is vital. There are numerous non-legal data bases accessible to private parties for modest charges once you have the terminal, the data phone, and basic familiarity with computer retrieval. For example, abstracts of government-sponsored economic reports, urban planning studies, and engineering reports are available from the Department of Commerce through its National Technical Information Service (NTIS) at a \$35 an hour on-line charge. Business forecasting data is available from The Information Bank, a subsidiary of The New York Times Company. At \$70 an hour you can search the Social Science Citation Index, which is a multidisciplinary data base indexing every significant item from the 1,000 most important

⁶ See Dee and Kessler, "The Impact of Computerized Methods on Legal Research Courses: A Survey of LEXIS Experience and Some Probable Effects."

social science journals throughout the world. Numerous on-line systems are available containing substantial materials on ecology, engineering, energy, transportation, psychology, agriculture, education, business, and the sciences. It must be noted that West will permit you to utilize your WESTLAW terminal to communicate with other data bases, but Mead restricts usage of a LEXIS terminal to LEXIS services.

Computer research is here to stay. In a complaint dated August 16, 1976 filed by Mead against West in the Southern District of New York, Mead reports (at page 6) that: "Approximately 23,000 lawyers, law students and accountants in twenty-one states and the District of Columbia have been trained to use the LEXIS service." If you are involved in a tangle in a Federal court with a large law firm, and a government agency, it should be understood that all these entities, including the judge's clerks, will have some form of computer research system available to them. Notwithstanding this lawsuit, in which Mead charges West with monopolizing the legal research material market in both book and computer-assisted form, I will attempt to evaluate the two systems.

WESTLAW's data base consists of the headnotes taken from all state court cases reported in West's National Reporter System from 1967 to date, and all reported United States Federal court decisions from 1961 to date. Thus, you have approximately three million headnotes from nine years of 50-state court cases and from 16 years of Federal decisions. The LEXIS library materials are attached as Exhibit A, and you should review them carefully, for the LEXIS data base now has more than six billion characters. This is a full-text base and includes all Federal court decisions from 1960 for the district courts, from 1945 for the Courts of Appeals, and from 1925 for the United States Supreme Court. Special data bases on Federal Securities law, Tax law and Trade Regulations law are available, as is the United States Code. I have one word of caution concerning these specialized bases—they contain selected materials and are not intended to be exhaustive. Accordingly, the user should have a good grasp of the field of practice before any assumption should be made that a complete search was run. Extensive case law and statutory material from the states of Ohio, California, Delaware, Florida, Illinois, Kansas, Massachusetts, Missouri, New York, Pennsylvania, and Texas are also available. If your state data base is not yet included in LEXIS, I understand that if you can get a group of subscribers together, Mead is reasonably receptive to embarking on a program to build a state file covering

the past ten to twenty years. The LEXIS data base represents an incredible accomplishment, and the statutory and administrative materials, as well as the depth of its case law base, give Mead the edge in this area. The advantage of the WESTLAW data base lies in its 50-state coverage of case law.

The LEXIS base is unindexed and full text and includes every word of the respective case or statute. I feel that the advantages of full text, of certainty and thoroughness, outweigh the drawbacks of full text; that is, the number of irrelevant documents that often accompany the relevant and the tendency to output a formidable number of documents. The WESTLAW base is indexed and limited text, consisting of the familiar West headnotes which are case summaries. With the WESTLAW system, you encounter the limitation of any index system where you search "contract" and the headnote writer used "agreement." Of course, most of us were trained on the West National Reporter System and are used to the headnote and Key Number System.

LEXIS, as a nonstatistical research system, requires the researcher to write out his or her search request in a special retrieval language that must be learned—you must have your Boolean logic hat on. WESTLAW accepts a natural language query and then uses statistical techniques to determine how closely each document in a given library matches the query in word usage and frequency.

West claims⁷ that its editors have found more relevant cases in computer-assisted searches of the limited text or edited base in combination with West Key Numbers than they did when using the full text data base. Quite frankly, I am skeptical of such a claim, but it is true that WESTLAW is more than headnotes when the Key Number factor is considered, because once you locate a good headnote, you can run the Key Number and then easily move into the National Reporter System which most law libraries contain. The WESTLAW system is as good as the West Key Number product, and you are in a position to evaluate this one for yourself since the printed product has been in existence for some time. I should note that the U.S. Department of Justice's JURIS computerized retrieval system also contains West headnotes, at least for federal cases, but the designers of the JURIS system did not define each individual headnote to be an independently searchable document as did the WESTLAW designers. Instead, they defined the *set*

⁷ See West Publishing Company sales brochure on WESTLAW, No. 9479, April 1976.

of headnotes for each decision to be the basic searchable document. They assigned individual document numbers to collections of related headnotes rather than to individual headnotes. Hence, the JURIS system can view all the headnotes for a single case simultaneously.

The method of operating a LEXIS terminal and a WESTLAW terminal is more appropriately the topic for a two-day course and, furthermore, the respective vendors are much more qualified to present same. Both companies have excellent brochures and will provide personal orientations.

From a user's standpoint, WESTLAW is easier to learn because it accepts natural language queries. WESTLAW also attempts to display the most relevant documents ahead of others, while LEXIS makes no such attempt. LEXIS is an excellent citator, while WESTLAW cannot be used as a citator. The principal advantage of LEXIS lies in its assembly of collections of documents relating to each other in a well-defined way. For example, LEXIS can retrieve all cases relating to a specific fact situation or all cases decided by a given judge. The LEXIS key words in context feature, known as "KWIC," permits you to retrieve a number of words to either side of your search words in a given case so that you are able to quickly determine its relevancy. If the case is relevant, you can then browse through the entire decision which often leads you to think of other points and other search terms. You can work with LEXIS as you would a large printed library, and you cannot do this with WESTLAW.

The direct costs of LEXIS require a seminar and your accountant for a thorough evaluation, but I will attempt to summarize. For terminal installation and training, you will pay a flat fee of \$2,550 under any of the three price options which are inconveniently listed as Schedules Q, A and B, and interestingly enough, the cost spectrum for these options runs from B for the most dollars to A to Q for the least. In any event, in addition to the \$2,550 flat charge, you have a fixed communications and equipment monthly charge of from \$500 to \$550 depending on what speed printer you desire: slow or snail's pace. Assuming you choose the better printer, you are looking at \$9,150 for your first year and you haven't used it yet. If you commit to a monthly usage commitment of \$2,500 per month, your usage rate is \$77 per hour for what Mead calls "research time" which is really connect time, plus a surcharge of \$3.25 per minute for each minute of connect time that your search request is transmitted to the computer until a

response appears on the terminal stating that a certain number of documents satisfies your request. Generally, this surcharge will apply to approximately 10% of your usage, so when you add the \$19 (6 minutes x \$3.25) to \$77, you come up with a usage charge of \$96 per hour. Under this option B \$2,500 usage minimum, you will receive approximately 26 hours of usage, and all hours in addition to the 26 hours are billed at the same \$96 per hour rate. On an annual basis then, for the first year you are looking at \$39,150 for 312 hours which results in a direct cost of \$125 plus per hour.

The LEXIS option A requires a \$12,000 per annum usage commitment and the approximate hourly usage charge is \$116 per hour, resulting in a usage commitment of 103 hours per year or 8¾ hours per month. Your first year in option A will run \$21,150 for a direct cost of \$205 per hour. Option Q requires no minimum usage commitment, so in addition to the \$9,150 fixed cost of year one, the usage charge per hour is \$131. Under option Q if you were to use 60 hours your direct cost would be \$283 per hour. Under all these packages there is an offpeak connect time rate of \$48 per hour which, with the surcharge, reduces the hourly rate to \$67 per hour. The availability of this offpeak rate depends upon the time zone situs, and the stamina and personal life style of the user. Generally, on Monday through Friday, offpeak means after 7:30 P.M., but on Saturday and Sunday, the off peak rate applies from 10:00 A.M. to 6:00 P.M.

The WESTLAW pricing options are somewhat simpler to explain. For \$3,000 per month you receive unlimited search privileges and for \$1,800 per month you receive six hours of usage per day which in the Eastern Time zone runs 9:00 A.M. to 10:00 A.M., 11:00 A.M. to 1:00 P.M., and 5:00 P.M. to 8:00 P.M. Under the third option, you are charged a flat fee of \$1,200 per month and \$30 per hour for usage with a minimum monthly commitment of 30 hours and a total minimum dollar commitment of \$2,100 per month. Accordingly, under Westlaw you are looking at annual minimums ranging from \$21,600 to \$36,000.

I think you will concede these are major budget items and if your firm anticipates under 60 hours of usage per year, I question whether the private terminal is economically feasible. The problem is that until the American Bar Association acts in this area, there really is not an effective public terminal option. Some county law libraries sell WESTLAW services at \$25 per half hour, but they have yet to attempt telephone searches. Other organizations have

attempted LEXIS public terminals, but when a state bar, LEAA or other subsidy runs out, they tend to fizzle. LEXIS does not permit telephone inquiries, you have to be trained before you can run your search, and you will pay \$200 an hour, so the viable alternative is yet to be found for one who cannot afford the private terminal commitment.

The indirect costs of computer-assisted research can be substantial. These systems require:

- (1) firm involvement on the part of senior members to ensure that all junior attorneys are trained and encouraged to utilize the terminals;
- (2) an adequate physical environment (space, ventilation, air conditioning, etc.), and individuals to assist the users;
- (3) financial controls to ensure adequate usage and accountability for client billing purposes; and
- (4) (generally) the presence of the attorney, so you have a double billing rate at work.

The implementation process of a computer-assisted research system is critical to the successful use by a firm of this vital service. The top level of a firm must let it be known that the firm considers a computer research system a critical part of the practice. Senior attorneys must query whether a junior attorney checked a problem through such a system, and a positive attitude towards the use thereof should be demonstrated. With respect to training, I am against the military drill concept where bodies 1 through 5 must show up at 8:00 A.M. for two days of nonsense. I favor a brief initial orientation, then real training when the attorney has a good client problem, and then re-enforcement by some search training sessions later on. West is much more flexible in this area than is Mead, and this may be because the WESTLAW system is easier to learn and operate, especially since the search framing rules are not as complex and rigid. Mead presumes the way all lawyers should practice law, and insists on exhaustive sessions that can have a negative impact on the program. With respect to training, I recommend that you should not implement or train your attorneys on both.

Squire, Sanders & Dempsey has obtained extremely valuable usage from both of the systems, and our experience may or may not be particularly relevant to your situation. I think that any firm with 100 or more attorneys should have both systems since we find them to be complementary instead of competitive. In other words, for us it has not been a question of choosing between two pub-

lishers for tax service. In addition, the LEXIS data base in Ohio is rather unique since it contains all case law since day one. Accordingly, if you have a forty-man firm in Ohio and are looking into both systems, I feel that you really have no choice but to choose LEXIS on the basis of its current library. However, if you are in a state which does not have a LEXIS data base for your state, or if you are in a medium-size firm, then I think from a data base coverage and from a per hour or per search cost standpoint, you will have to choose one over the other.

During the year 1975, our firm ran 1,036 searches on its LEXIS system and incurred approximately 500 hours of usage, of which 96% involved real time for clients and 4% was attributable to general library and office use. We also incurred an additional 60 hours of usage for training time, for which Mead Data Central gave us training credit. When you add our fixed cost of \$6,600 for equipment and communications charges, together with 500 hours times \$96 an hour, you can determine that our annual cost was approximately \$55,000 or \$53 per search and a total charge of \$110 per hour. In December, 1975, we installed the WESTLAW terminal and for the first nine months of 1976 the comparative figures are as follows: we have run 664 searches on LEXIS for a total of 342 real time client hours. This figure does not include the 50 hours of training time for which we have received credit. Nine months of the fixed terminal and communications time would add up to \$4,950 and 342 hours times the \$96 per hour charge equals \$32,832 for a nine-month total of \$37,782 at \$57 per search or \$110 an hour. Our LEXIS charges and usage are running on a parallel with our 1975 figures. During the first nine months of 1976, we ran 3,282 searches on WESTLAW and had 185 hours of usage, of which 85% represented real time usage. We were operating under an option that is no longer available, but is similar to the flat \$1,200 per month plus a minimum of 30 hours a month usage at \$30 an hour. Our deal called for a flat \$1,200 per month plus \$2.50 per search. Accordingly, our nine-month flat charge was \$10,800 and our search usage charge was \$7,987 for a total of \$18,787 or \$5.72 per search. I must explain that there are 11 separate files in the WESTLAW system, and in order to run a complete search, you must query all 11 files. Thus, on these statistics, a search is really running us \$63. The cost per hour for WESTLAW ran approximately \$101 per hour.

Quite frankly, I am somewhat disturbed by the similarity of cost to our firm for LEXIS and WESTLAW. I appreciate the unique

features in terms of search method and data base of both systems, but LEXIS offers a much more substantial data base and permits one to get in there and work with the material, and I personally feel that the WESTLAW cost should be half that of LEXIS.

If you are a substantial user of both systems, you find that the actual cost per hour and per search is quite comparable. You can then evaluate which system gives you better results, since you begin with a fairly even dollar base. The cost analysis becomes difficult if your usage will be half that which I am discussing. This is because your fixed charges will bear much more heavily on your actual hours of usage. For example, if you were to run 300 hours on both LEXIS and WESTLAW during a year, your cost per hour on LEXIS would be greater than 300 times \$96 or \$28,800, because you have a minimum commitment of \$36,000 and in addition, a fixed charge of \$6,600. Accordingly, your hourly rate would jump to \$142 per hour from our \$110, and a lesser option would be just as expensive. On the WESTLAW system at \$30 an hour you would expect a \$9,000 usage charge, but once again, you have a 360-hour minimum so that your usage charge would be \$10,800 and your flat fee would total \$14,400 for a total of \$25,200 or \$84 per hour. The WESTLAW per hour price holds at a fairly constant rate until you drop off below 300 hours per annum, and of course, if you are a substantial user your rate will be reduced by a significant factor since the annual ceiling for unlimited usage is \$36,000.

I should note that it might be convenient for your firm to share a terminal with two or three other firms in the same building in order to substantially reduce each firm's costs. Mead prohibits the subscriber from doing this in its current contract form, but I understand that West may permit it as long as one firm is responsible for the housing of the terminal and the fiscal accountability therefor.

With respect to your firm's implementation and training, you will need space, hopefully in an air conditioned office in or adjacent to your library, and an active firm committee. Training for fifty to one hundred attorneys can easily take two weeks, so be ready for chaos and encourage attorneys to take client matters with them to the terminal in order to generate more meaningful training and to reduce somewhat the lost billable time factor. It is in this area that I have found West to be much more flexible and cooperative than Mead.

There are research problems that are not really suited for

computer research, and a search of such a problem will be expensive and may discourage further usage by the searcher. As Jim Sprowl points out in his new book: "When a researcher knows little or nothing about an area of law, he may do himself a disservice by relying solely upon a computerized system. The LEXIS system at present requires one to know in advance what words and phrases are likely to be in the cases or statutes to be retrieved, and it does not stimulate the thinking of the researcher by suggesting possible alternative words and phrases other than those he may encounter while browsing. If the researcher is unaware of the existence of a particular issue or doctrine, a computerized system will not necessarily draw it to his attention. A researcher unfamiliar with an area of law is better served by treatises, articles, loose-leaf services, and other more traditional tools of legal research that can stimulate his thinking by suggesting to him a variety of possible solutions to his problem."⁸ If one is not familiar with an area of law, I recommend that a treatise be consulted first in order to narrow the issues and generate applicable words and phrases. We find that our WESTLAW system is a better first-search "quick hit" device in order to jump the researcher into the middle of the problem, and that LEXIS is an excellent tool for conceptual matters and for reviewing a number of cases once you have pinned down the issue. Notwithstanding the limited data base, WESTLAW finds a substantial amount of relevant material in much less time than LEXIS. However, you cannot review the material at the WESTLAW terminal, since it contains only the headnotes, and WESTLAW coverage in terms of time span and materials is much more limited than LEXIS.

A significant factor in obtaining a high level of user acceptance in our firm has been the involvement of law students in providing the computerized legal research service to our attorneys. In 1972, upon the recommendation of Robert J. Asman, President of OBAR, we began training second and third-year law students to man the terminal full time in the summer and part time during the school year. These law students are not terminal operators; instead, they are terminal supervisors. We encourage direct interface, but we obtain maximum results through supervised direct interface. These young people are paid on the average \$5 an hour, and respond enthusiastically to a part-time job which permits them to

⁸ Sprowl, James A., *Manual For Computer-Assisted Legal Research* 14-15 (ABA Press, 1976).

become research experts and to witness the practice of law. We have had no problems with our law students in any area (including confidentiality). Our law students are experts at individual orientation and reinforcement of vendor training. In addition, they bring to the training session invaluable experience gained through numerous live searches, and they also adopt the tone and posture of a specific law firm as only an in-house person can. Our law students request the individual to bring a current client matter to the training session in order to increase that person's interest in the system and, possibly, to offset some of the training expense through a chargeable account. Proper orientation is accordingly accomplished in a thorough but informal manner by the same individual who will be available to assist the attorney in the future.

Positive reinforcement can best be accomplished through the use of law students. With his or her experience, the law student can assist the attorney in realizing maximum results in the minimum amount of time, through search framing and keyboard suggestions. Unless an individual uses the system twice a week, he or she will not stay aware of all the keyboard techniques. In addition, search framing requires a somewhat different mental research strategy than manual research, and a law student who runs some 90 searches a month can ably assist the user in this area so as to make them productive. Each data file contains a general description of the library materials included in that file, but the law student knows exactly what is there and can relate the materials to the attorney's area of practice. During a search the law student also chases down key decision volumes or supplementary treatises in the library in order to aid and abet the search.

Of course, there are many attorneys who would simply not use the system without law student assistance. Many attorneys fill out a search request form, forward it to our librarian, and receive the printed result from the law student following the search, or request that they be called in on the search when the law student is getting close. A number of searches are routine, but valuable, such as statutory section number or decisional cite checks; the obvious waste of attorney time on such searches is avoided by law student personnel. The billing is handled with ease by the law students, for they take care of all record-keeping functions. In addition, they accumulate invaluable usage data, offer advice for improvement of the service, and monitor our invoices to make certain that we are accurately billed for our usage time.

Moreover, your law librarian is vital to the success of any re-

search system since he or she will frequently be asked to locate something and the requesting party really has no preference as to how the librarian locates the relevant material. Your librarian will also be more familiar than anyone else with the additional on-line services which contain materials other than legal data. Your librarian's attitude towards and efficiency in computer-assisted research may prove to be the key element in the operation of such a system in your firm.

Our client billing acceptance of these systems has been excellent. Each system is billed as attorney time, and not as disbursement time as you might bill for a photocopy machine. It has been our experience that while research time in general is charged down more than any other type of time in our firm, computer research time is generally charged by the billing attorney at the designated rate.

In summary, both LEXIS and WESTLAW are valuable research tools and appear to be surviving well. In November of 1972 a report to the Scottish Legal Computer Research Trust was highly complimentary of the LEXIS system, but concluded that: "Doubts arise only on the question of commercial viability." Computer research is expensive and may indeed equal a firm's expenses for its annual library accessions, but I think that it is worth the cost and effort. I urge you to consider computer research, to receive vendor orientations, to talk to firms of comparable size and practice who have either or both systems, and to review your practice needs and compare them against the respective vendor data files and price options.

I am certain that I have not done justice to either Mead Data or West, and in recognition of such failing, I should compliment both for having the economic fortitude to market a highly essential product to the toughest and tightest market in the world, the legal profession.

Conference on Computerized Access to Secondary Legal Materials

This work was partially supported by a grant from the council on library resources. The views expressed, therein, are those of the participants and in no way represent the official position of the C.L.R.

Introduction

Recently the decision was made to add the patent related opinions of the Court of Customs and Patent Appeals to LEXIS, an automated legal research system developed by the Mead Data Central Corporation. The PTC has been studying these systems for some time to keep abreast of current developments. In the process, a major problem of how to computerize secondary materials (such as law journals and other periodicals) was uncovered. Also, several members of the patent bar have written to us expressing an interest in investigating the problems of computerized research. This led to the PTC Conference on Computerization of Secondary Legal Resources as reported below.

Until the development of machine searchable data bases, the research tools available to the legal profession had changed little since the turn of the century. With the application of computer technology to legal research, a community of interest developed between law and technology, fields generally thought to have little common ground.

Automated search techniques were first applied to the areas of statutory and case law, both state and federal. The Department of Justice developed JURIS to facilitate its access to federal law and the Air Force designed FLITE to meet the needs of the military.

Private enterprise, too, entered the field of automated legal

research. The most successful systems presently available are LEXIS and WESTLAW, the latter produced by the West Publishing Company to permit computerized searching of its headnotes. LEXIS is a full text system which includes opinions and statutory law for a number of major states: Ohio, Illinois, New York, California, Texas, Missouri, Florida, and Massachusetts. Also, in the data base is a wide range of federal material—all federal courts, SEC material including “no action” letters, cases interpreting the U.S. Code and the Internal Revenue Code and Regulations. Soon to be added are opinions relating to patents from the Court of Customs and Patent Appeals.

These systems have begun to prove their worth to the legal profession in facilitating searches, making them both faster and more complete. However, none of them provides access to a class of information which is assuming an increasingly prominent place in the field of legal research. Secondary materials, in particular periodical articles, are now accessible only through the *Index to Legal Periodicals*, published by the H. W. Wilson Company which also produces the familiar *Readers Guide* and other periodical indexes. ILP, as it is called, has been a source of frustration to legal researchers. It is slow to appear and infrequently cumulated. Access is by title, author, case name, and subject. The subject headings in particular are limited and often overlapping. Not all legal periodicals are indexed, and other kinds of secondary materials are not indexed at all. Law librarians, whose business is to make available information to those who need it, have for some time sought improved access to these secondary materials, but organized efforts have been spasmodic and have borne little fruit.

With its special interest in law and technology, the PTC Research Foundation found that it could play a constructive role in the search for better access to secondary legal materials.

Damon Swanson, then editor of IDEA, proposed a system plan for abstracting periodical articles. These abstracts, along with descriptors and citations would form a data base which could be searched by computer. Volume 17, Number 1 of IDEA was used as an example of one possible format scheme.

“The generally poor retrieval systems available for research in legal periodicals, coupled with time and financial limitations upon the practicing lawyer, have resulted in minimal usage of these important sources of information in research, briefing, and decision-making,” he wrote. “As a new law school, Franklin Pierce Law Center, with its PTC research arm, is in a particularly flexible

and advantageous position to develop new library and information retrieval concepts that would not be feasible for institutions committed to particular library formats and programs."

Mr. Swanson sent that issue of IDEA to law librarians all over the country, along with a letter asking those who were interested to respond to the suggestions put forth and to contribute their own thoughts.

In March 1976, with the help of a grant from the Council on Library Resources, some twenty-five law librarians and others experienced in information retrieval gathered at the Inn at Steele Hill in Sanbornton, New Hampshire. This working conference considered the problems and possibilities of computerized retrieval of secondary legal information.

The first session considered what should be included in the data base. Under this general heading the panel addressed itself to such questions as: (1) What publications should be included? Only those in the Index to Legal Periodicals? Others? (2) What form should the data base take? Author-title? Abstracts? Citations? Full-text? (3) Who will abstract the articles? How will quality be controlled?

Speakers in Session I were:

Roger F. Jacobs
Librarian
University of Southern Illinois
Carbondale, Illinois

Margaret A. Leary
Assistant Director of the Law Library
University of Michigan Law School
Ann Arbor, Michigan

George S. Grossman
Director of the Law Library
University of Minnesota Law School
Minneapolis, Minnesota

Ruth Kessler
Assistant Librarian
Ohio State University College of Law
Columbus, Ohio

The second session discussed technical alternatives and format, including such matters as: (1) Who holds and maintains the data

base? (2) How is it kept up to date? (3) Should it or can it be compatible with other data bases? (4) What are the methods and costs of retrieval? Are trained operators needed?

This session was led by:

Jeff Meldman
Assistant Professor
Sloan School of Management
Massachusetts Institute of Technology
Cambridge, Massachusetts

Mildren Mason
Director of the Legal Data Services Program
Information Dynamics Corporation
Reading, Massachusetts

Betty W. Taylor
Director of the Law Library
Holland Law Center
University of Florida
Gainesville, Florida

David McIlwain
Student
Franklin Pierce Law Center
Concord, New Hampshire

The third session on copyright implications of computerized information retrieval was addressed by:

L. Clark Hamilton
Deputy Register
United States Copyright Office
Washington, D.C.

The final session addressed itself to matters of feasibility and practicality, asking such questions as: (1) Who would use the system at projected costs? Law librarians? Large firms? (2) What is the next step toward formulating and implementing a workable proposal? Addressing this concluding session were:

Christine A. Brock
Law Librarian
DePaul University
Chicago, Illinois

Joseph S. Ciesielski
Law Librarian
University of San Diego School of Law
San Diego, California

William G. Harrington
Partner
Stouffer, Waite and Ashbrook
Cleveland, Ohio

Morris Cohen
Librarian
Harvard Law School
Cambridge, Massachusetts

J. Myron Jacobstein
Law Librarian
Stanford University
Stanford, California

The conference was convened and moderated by Carolyn W. Baldwin, cataloger at the Franklin Pierce Law Center Library and full-time student at the Law Center. Others who attended the conference were Cameron Allen, Librarian at Rutgers University Law School in Newark; William Bean of Warren, Gorham & Lamont in Boston; Lance E. Dickson, Law Librarian at Louisiana State University in Baton Rouge; Dan Henke, Law Librarian at the Hastings College of Law of the University of California in San Francisco; Sharon M. Kissell, Reference Law Librarian for the National Library of Natural Resources, U.S. Department of the Interior, Washington, D.C.; Louis E. VonGunten, Librarian at Franklin Pierce Law Center; Damon Swanson, Editor of IDEA, and Acting Director of The PTC Research Foundation; Robert H. Rines, President of Franklin Pierce Law Center; and Robert M. Viles, Dean of Franklin Pierce Law Center.

An ad hoc committee, called the Secondary Materials Indexing Group (SMIG), was set up to explore and report on specific suggestions made by the participants. Members are Myron Jacobstein, Betty Taylor, L. Clark Hamilton, Christine Brock, George Grossman, and Carolyn W. Baldwin as convenor.

The committee met for a second time in Boston in June. At that time considerable progress was reported in crystallizing the directions the project should take. Members agreed to undertake further investigation of alternative approaches and to report their results to the group for further action.

Several private firms have been approached, and at least one has shown positive interest in undertaking the periodical indexing project. Members of SMIG have continued to work on specifications and detailed requirements as to format, method of abstracting, subject headings, and periodicals to be included. Efforts are also underway to organize a conference of law review editors in order to inform them about the project and gain their cooperation.

Considerable interest has been shown in the undertaking, and we hope to see some concrete progress in improving access to secondary materials for the legal profession.

Carolyn Baldwin

SESSION I

What Should Be Included in the Data Base?

ROGER JACOBS, SPEAKER

My initial reaction to the suggestion for a meeting to discuss the potential of computer access to legal materials, particularly the material contained in legal periodicals, was to conclude that this conference would consider ameliorating some of the shortcomings, as I perceived them, of the *Index to Legal Periodicals*.

In fact, in my response to Mr. Swanson's letter I stated: "I frankly believe that a modern substitute for the *Index to Legal Periodicals* is greatly needed. That publication, long used and still absolutely essential, is becoming damnably inefficient for search purposes."

Although that statement may be a bit unfair, it seems obvious that any discussion of improving the comprehensiveness or facility of retrieval of material in legal periodicals or other publications must, at least implicitly, suggest weaknesses in the *Index*, the standard of our business. I am certain that whatever we say today can

in no way denigrate the contribution a hundred or more law librarians have made to legal scholarship through their efforts on behalf of the *Index to Legal Periodicals*. That surely is not *my* intention.

However, it is my view that whereas law librarians once boldly asserted that the bibliographic control of legal materials was unexcelled by any other discipline, we would find it difficult to make that assertion today.

The reasons for the demise of our bibliographic position are several. Although you may cite others, the following occur to me:

1. Increased publishing activity by traditional sources of legal research.
2. Expanded application of the law to the totality of the social fabric resulting in our interest in a much wider spectrum of law related publishing.
3. A relatively small population of users to support bibliographic efforts.
4. A paucity of public subvention of our bibliographic interests.
5. A lack of imaginative responses to bibliographic needs.

We may today speak to a number of these issues, but it is my place to suggest some of the material which should be considered for inclusion in a data base of secondary sources. The choice of the term secondary sources rather than periodical literature should be apparent momentarily.

1. Abstracts of *all* legal periodical articles. I stress *all* because I contemplate a device which would provide in one place the information contained in the *Index to Legal Periodicals*, *Index to Foreign Legal Periodicals*, *Canadian Index to Legal Periodical Literature*, *Current Index to Periodical Literature* (University of Washington), and the *Annual Legal Bibliography*, in addition to those legal periodicals not indexed in any of these. In other words, a single device that contains the coverage of all the legal indexes we now regularly use—and more.
2. Abstracts of all articles appearing in non-legal periodicals which have a significant nexus with legal activity or scholarship. There are a number of non-legal periodicals of such importance to legal research and inter-disciplinary work that they should be co-opted into our data base. I have in mind such titles as *American Journal of Political Science*, and *Harvard Business Review and Foreign Affairs*. No doubt you can suggest others.

3. Abstracts of all legal articles of significance wherever they might appear in periodic literature. These are the materials that have been indexed over the past decade or so under the editorial supervision of our colleagues, Professors Jacobstein and Mersky in their useful service, *Index to Periodical Articles Related to Law*. I submit the utility of this material would be greatly enhanced if it were included in our single, all-legal data base.
4. Abstracts of all essays or reports in law and law-related annuals. A limited amount of this information has been at least subject listed in the *Index to Legal Periodicals*. Here I have in mind such items as the Oil and Gas Law and Taxation Institute of the Southwestern Legal Foundation and the New York University Conference on Labor. Others, like the annual lectures of the Law Society of Upper Canada, have been listed in the *Index to Canadian Legal Periodical Literature*. Still others, like the annual reports of the California Law Revision Commission, are listed in the *Harvard Current and Annual Legal Bibliography*. Would it not be advantageous to expand the coverage, increase the retrievability through abstracting, and incorporate this information into our unified data base?
5. Abstracts of occasionally published collections of legal essays. By and large this class of materials, or at least the individual contributions contained in these collections, is lost treasure insofar as the standard presently extant legal retrieval mechanisms are concerned. For example, a recent essay by Professor Stevens of Virginia entitled "1876: Hooray for Legal Education" appeared with a collection of predominantly legal essays in Volume V of *Perspectives in American History*, an annual series devoted to American History. Our libraries may have purchased that volume, but without the preparation of substantial catalog analytics, the Stevens article would be irretrievable through normal search techniques in legal bibliographies. (However, this item and others like it may be included in the *Harvard Current Legal Bibliography*.)
6. Abstracts of all new law books sufficient to exemplify their contents in a manner unavailable by any presently existing device. This class represents what is probably the most revolutionary, and thus the most challenging, of any suggestions for inclusion in the data base. I can't claim the idea is my own. Professor Dickerson of Indiana, an expert on indexing and drafting in the statutory field, recently suggested to me the

irony of providing bibliographic access to a minor article by a minor author while at the same time we leave untouched the masterpiece in the field which appears as a chapter in a full length book. Furthermore, a number of current abstracting services in other fields *do* provide information about new books in more detail than is now available for law books through the standard sources. Consequently, based on a sense that there is both a need and potency for meeting the need, I suggest this class of material to you.

7. If not abstracts, at least subject listing of law and law related reports emanating from government agencies and institutional sources, both public and private. This area or class has recently been my own private hobby horse—based in part, I am sure, on my present circumstance as head of a newly established law school library. When faced with the responsibility of acquiring, cataloging, and classifying not only the two to three thousand new titles published this year, but also a fairly representative number of those law titles published over the past 100 years and more—the money and people resources demanded by the five page report, the 27 page study, the 85 page survey may develop into a bogeyman that doesn't trouble you, or at least not so significantly. In recent months I have found it increasingly difficult, conceptually and practically, to acquire materials knowing that to make them retrievable in my library I will be constrained to treat them as individual monographs with concomitant costs in processing (approximately \$12.50 each). This local pressure has forced my reflection, albeit brief and spasmodic, on other methods to control this material:

1. Vertical file treatment rather than full cataloging.
2. Developing a journal of "Fugitive Legal Materials", à la the *International Legal Materials*, which in turn might be subject to indexing in the *Index to Legal Periodicals*.

I must point out that the review of our current tools in preparation for this meeting again reminded me of the comprehensiveness of the *Harvard Current and Annual Bibliography*. That service does provide a basic listing of many of the materials I have in mind.

In short, what I look for is a mechanism which will inform those interested in legal research of the universe of law and law-related publishing or research activity—a *Chemical Abstracts* of law, an ERIC of law, an NTIS of law.

What I seek may be a will-o'-the-wisp. Law may encompass too great a mass of literature. The resources required to establish or support such a vision may be unobtainable.

However, if total control of our literature is beyond our capability, smaller constituent elements may be practically manageable. The services referred to obliquely a sentence or two ago give evidence of the power of man and machine to accomplish what may now seem a mere fantasy.

In this time of great concern among members of our profession regarding copyright law revision, I will conclude by suggesting that we might consider resurrecting a bill proposed by Baron Campbell, Chief Justice of England, as he then was: "So essential do I consider an index to every published work that I propose that any author or publisher who publishes a work without making arrangements to have it properly indexed should not only be deprived of copyright privilege by the Parliament but subject him to a pecuniary penalty for his offense."

MARGARET A. LEARY, SPEAKER

I would like to begin by sharing with you my comments concerning questions raised by the original proposal published in IDEA.

First: The greatest weakness in the present indexing of legal periodical literature is in the broad subject headings used and parsimonious use of headings for any given article. Most needed are first, more specific subject indexing and second, more entries per article than the *Index to Legal Periodicals* provides. In addition, a device to indicate the relationship among the various indexing terms and a boolean approach to searching via computer would both be useful.

Second: I am not certain the "words and phrases" approach used by IDEA meets these requirements. The source of the particular "words and phrases" used is not indicated. How will they be cross-referenced and otherwise tied together? How specific will they be? How many will be used for each article? Will there be a thesaurus of terms?

Third: It would be advantageous to have an abstract of each article which would be searched by computer. However, there must

be strict rules for the construction of the abstract, both in general and as to the particular words which may be used.

Fourth: I question the initial utility of a computer data base containing all the statutes and the case citations in law review articles. So many of these citations are extraneous to the subject matter of the articles that a large portion of the base would be superfluous. If the citations are to be included, devices like those used by Shepard's should be available to winnow out the less relevant citations. This would, of course, greatly increase the expense of the program, and this feature is far less useful than closer subject indexing would be.

Fifth: I do not believe that legal scholars will take readily to the idea of placing all footnotes at the end of articles. This is especially true if the proposal actually intends to omit commentary from footnotes. Footnotes at the end tend to be forgotten or ignored because of their inconvenient location.

To summarize my thoughts about the proposal: it may be attempting to cover too much by including cases and statutes; consequently, the need for closer subject indexing may not be met. I suggest that the subject indexing function be attended to first, and that the citation indexing be added later if need for it can be substantiated and the cost thus justified.

Those were my thoughts about the original proposal. Considering them in the context of the broader question posed to this panel, "what should be included in the data base," I will stick to my original statement that the greatest weakness in the present indexing of legal periodicals is in the imprecision, paucity, and absence of connection among the headings used.

Further reflection on the broad subject of what should be in the data base leads me to perceive three underlying questions. Firstly, which of the several types of secondary legal materials should be included? Secondly, what form should it take in the data base? Should it be a text abstract or extract from the material? Should it be a more sophisticated version of what we have now—that is, an application of specific index terms? This, in turn, raises questions as to what terms should be used, how many of them, and what the relationship of the terms should be. Thirdly, should there be a limit as to the length of articles that will be included in the index?

The decision as to which of the several types of secondary material should be included has to begin with consideration of what we mean by "secondary legal material." One commonly used

definition is that secondary material is everything that is not primary material. I think that when we are beginning a data base like this, for cost reasons primarily, we should not try to include everything that Roger has listed. Of course, it may be that including all those things will sufficiently increase the market so that the data base will pay for itself. Nevertheless, the decision cannot be made quickly or easily. Several factors must be carefully considered. Firstly, what do users need most? Secondly, what is the size of the market? Thirdly, what material is already adequately indexed or otherwise accessible? Some kinds of secondary materials are already adequately indexed internally and do not need to be correlated with other kinds of secondary legal materials. Within that category I would include encyclopedias and probably many monographs. The final question is, how much more useful would the material be if it were indexed in a computerized data base? There are really two parts to this question. That is: how much better could a computer index the type of material than do present methods? And, how necessary is it to coordinate a search for a particular kind of secondary material with searches for other kinds of secondary material? For instance: a law review article can frequently serve the same function in a search as would a monograph, but not usually the same as an encyclopedia article.

Applying this set of criteria to each category of secondary legal materials, it becomes obvious, for instance, that the encyclopedias would probably not be made very much more useful by inclusion in such a data base. A legal researcher approaches the encyclopedia early in the research process; the encyclopedias are well indexed internally; and they are usually used separately from the rest of the research process. Each category of secondary material should be examined using these criteria.

We have already gone over some of the weaknesses in the present indexing of legal periodicals. I think it important to keep in mind that if it was designed to be an index to material of historical value rather than to provide a current awareness of all the materials, then obviously we have to take a different approach. Among all the categories of secondary literature, that is, periodicals, encyclopedias, and law related materials, I think it is obvious that the most needed update would be an improvement in the indexing of legal periodicals themselves, that is, those now included in the ILP and a few others. An analysis of citations in the U.S. Supreme Court reports ascertained that 45% of all citations to

secondary material are to periodical literature in the category of law reviews, 30% to law books, and only 25% to other secondary sources.¹

I will summarize by saying that unless it can be proven that the market would be greatly increased by including all the categories that Roger listed, I would prefer to begin with an improved indexing or abstracting system for periodical literature, and to be certain that we were doing that properly before adding other material.

RUTH KESSLER, SPEAKER

I am going to speak about what I think should be in the data base from the point of view of the computerized legal research user. We have had the LEXIS system at our library for nearly two years and I recently spent a day at the West Publishing Company with their new WESTLAW system. So, having been involved with some of these systems, and having spoken with attorneys who have used them in private offices or in the OHIO Attorney General's office or at public terminals, I have come to the conclusion that the form of the data base is the primary consideration. All other facets, such as whether it is going to be abstracts or full text, or whether it is going to include footnotes or citations and so forth, depend on the form. By form, I refer to how the information goes in, and how it comes out.

Retrieving the citation to a law journal or other secondary material is the primary goal of this system. That is the same concept as the goal of LEXIS or WESTLAW—to retrieve the citation to a case that deals with whatever matter you are concerned with at the moment. LEXIS and WESTLAW, however, use two different data base systems.

The LEXIS system is based on boolean logic, which means that you can submit individual and separate words with connectors such as *AND* or *OR*. You can, alternatively, submit terms occurring within the same segment; or that are within a certain number of words of each other, and so forth. For example, if you submit the terms *bequest AND beneficiary*, *AND* means that both of those terms must be present in the material in order for it to be retrieved. If

¹ Bernstein, "The Supreme Court and secondary source material: 1965 term," 57 Georgetown L.J. 55 (1968).

you submit *beneficiary OR bequest*, *OR* means that if one or the other term or both are present in the material, it will be retrieved. If you submit two terms within a certain number of each other, e.g., *contemplation within five terms of death*, the program could retrieve *contemplation of the probability of death*. Thus the two terms do not have to be side by side.

The basis of the LEXIS system is full text; that is, every word and number as printed in the case opinion is entered into the computer (except for West headnotes which are copyrighted by the publisher). Therefore, in LEXIS, any word or combination of words that appears in the decision will retrieve that particular decision. Obviously, it is possible to retrieve hundreds of cases with the same words. Careful consideration must be given to what terminology is entered so that it will not be too general.

WESTLAW is a different data base system. In WESTLAW key words were given numerical weight, and retrieval is based on the weight of each word searched. The weight is pre-determined by West's editorial staff. This system permits a natural language question to be asked, as compared to separate terms with connectors as in LEXIS. For example, in WESTLAW you can ask a question such as: Can a gift or bequest made in contemplation of death be retained by the beneficiary? Suppose the word *beneficiary* has been given a numerical weight of five, the word *bequest* a numerical weight of four, *death* three, *gift* two, and *contemplation* one. Retrieval, then, is based on the weight of each word. Headnotes containing all five terms will be retrieved first, then those with four terms, and so forth until dropping the word of least weight each time, finally you retrieve the headnotes containing only the word *beneficiary*. The basis of this system is West headnotes only; it is not full text. The headnotes are written by the West editorial staff, and their terminology is the only terminology you can use to retrieve the material. Words that appear in the body of a decision will not retrieve the case unless the same words are in the headnotes.

From this brief comparison you can see the importance of deciding first what kind of a system should be used in planning any kind of data base. If the boolean logic system is used as in LEXIS, then each word or number has the same weight. A conclusion or summary, if it contained more information, would at least give the user more terms than an abstract and would give more options for retrieving the material. It would not be full text, meaning that every word of the article is entered, but it would be full text in the

sense that it would not be as limited or restricted as an abstract would be. On the other hand, in a system giving numerical weight to terms, such an abstract would be comparable to West's headnotes. In that case you must have the same weight for the terms used in each abstract in the same manner that West uses the same terminology in its headnotes. For example, their key number 47 under *presumptions and burden of proof* includes headnotes for all cases containing material on contemplation of death.

Obviously not all authors of law journal articles will use the same words, even though the thought behind the articles is the same or similar. Writers on legal issues probably have more terms to express the same premise than scientists have. Certain terms remain the same, but other terminology used to express ideas about legal concepts does not remain constant. In the Notes on PTC Progress in *IDEA*,¹ this basic problem was touched upon. A comparison with a journal devoted to a physical science, or even one devoted to a specific legal field such as urban law, shows that abstracting an article in the *Yale* or *Harvard Law Review* presents a different problem. For example, an article entitled "Regulation in the Political Process"² contains eight different concepts: free market system, economic regulation, government intervention, political accountability, statutory policies, and so on.

Chemical Abstracts is published by a company that is related to Ohio State University. In the early years authors did their own abstracting; the abstracts were more complete because the journals were not as available as they are now; the reader could get all the information needed from the abstract. They now have their own indexers to do the abstracting of the articles; these abstracts give only the essential outline. The reader then has to go to the journal for the entire article. The abstracts in *IDEA* are written by the editor and use words and phrases designated by him. These words would have to be consistently used and would have to receive the same numerical weight for a legal retrieval system to be effective. This determination would have to be made by the programmer, hopefully one trained in legal terminology.

The author of an article knows better than an editor exactly what point he is trying to make. Therefore, ideally he should be the one to do the abstracting. I am purposely by-passing the problem of how to get an author to write an abstract of his article, particularly an attorney, a professor, or anyone other than a law student. These

¹ Volume 17 #1.

² 84 *Yale Law Review* 1935.

people put a value on their time that eliminates any writing other than the article they agree to supply. If supplying an abstract with citations and footnotes at the end of the article is a requisite, you may not be able to get people involved at all.

Assuming that we intend to have authors write their own abstracts, how are we to introduce this idea to them? What system is going to be used for the data bank? What terms should be used in abstracting? What numerical weight is given to each term? Going to a full text system would eliminate the problem of abstracting and assignment of numerical weight to terms. But full text raises a point of economics. The system has to be economically efficient for the researcher. Assuming that a full text data base is the most expensive method, the problem becomes whether the cost of the computerized system will be worth it. Would the old method of hours of work by a research assistant in ILP be the less expensive method, even granted that the old method is far more apt to miss a relevant article? What other possibilities are there?

Using a summary or conclusion might be a better alternative than either full text or abstracts. If editors do the abstracting, they will use the terminology developed for that particular system. But will the editor always recognize the point the author intends to convey? Abstracting can be restrictive. How many times have we looked through the digest for cases which West headnote writers have put in a topic key number whose terminology made us wonder how they ever thought we would find it there. As an alternative, the summary or conclusion, written by the author and containing key information as the author perceived it, could be entered in its entirety and would thus be full text in that limited sense. It could also include citations vital to the information in the body of the article. Footnote material, it seems to me, is largely extraneous in a computer data base. On occasion it can lead to material that possibly could not be located in any other way, but in general, especially if it refers to other law journal articles, it could be retrieved from the computer in the same way. The names of cases referred to in the summary could be accompanied by citations as they are in the body of opinions. Or, if only the case name is provided, the citation would then be available by consulting the entire article, which we assume the researcher would do, or in a table of cases.

The whole purpose of this research system is to provide quick retrieval of articles dealing with a specific problem. Having determined that there are five articles on a given subject, the researcher could then read those articles in detail.

In the same manner now used in LEXIS and WESTLAW, the researcher first finds a case in point and then goes to the reporter to determine its usefulness to his problem.

Other vital information that should be included in the data bank are author, title, and date. The author of the law journal article or the publication in which it appears is sometimes as important to the research as the material it contains. The date is important in finding the latest, or perhaps the earliest, treatment of a certain point.

Computer systems are expensive, so West decided that extraneous material in the data bank was unnecessary. They put in only what they considered vital for fast, accurate retrieval. You must have a retrieval system based on a process that is easy to learn and to operate so that a few minutes will produce some results. The cost factor, related to the time on the terminal, is an important consideration for every potential user of such a data base. Since the market for this data base will probably be limited, the cost will be high. Therefore, anything that can be done to keep the cost down while still providing the service should be carefully considered.

Thus, the first decisions to be made are the type of programming and the retrieval technique. These should provide the necessary information to the researcher. The next decision, once this system is established, is the type of materials that should be included.

GEORGE GROSSMAN, SPEAKER

I fear that the proposal put forth in IDEA is a bit of a pie-in-the-sky. In their proposals to index legal periodicals and other secondary sources in a triple-whammy approach by descriptors, abstracting, and citations, I had the feeling that those putting forth had no idea what they were getting into.

The theme of my talk, therefore, is that we should take a very realistic accounting of the physical limitations that we have to face, both at the input stage and at the output stage. This means that contents must definitely be subordinate to technique, at least initially. It is much more important that indexing and abstracting be done correctly, than that a particular journal, which didn't quite please the AALL Committee on the ILP, be included. The ILP has been criticized for omissions, both because it omits certain journals

and because of the so-called five-page limitation. But it has also been defended, and we have to admit, that an indexing service performs a function, not merely in indexing wanted information but also in screening unwanted information. I am not sure that I can suggest a better mechanism than the AALL¹ committee of law librarians which makes a conscientious effort to include what it sincerely feels should be covered. It is possible, of course, to remove some of the restraints under which it is working, but as a mechanism for deciding what should be included, I am not sure that I could suggest anything better (except to have someone ask me . . .).

These types of decisions are never fatal; they can be corrected in the future. A decision to exclude something can be corrected by bringing the journal into the system in the future. But poor indexing is something that is tragic forever. Therefore, I recommend that any future system start off slowly on content. Perhaps during an experimental phase it could concentrate on representative types of journals in the data base: law reviews certainly, other journals produced by law schools, bar journals, journals of other law societies, commercial law journals, perhaps even legal newspapers and newsletters, although here the system is getting into publications produced primarily for current awareness, and eventually ending up with *festschriften*, essays, and transcripts, as well as law-related articles in non-law journals.

I would, however, recommend that monographs not be included at this point. There is a need to coordinate with other efforts being made—primarily the efforts to create networks among libraries. Their initial work will be in the monograph field. Monographs also involve different indexing concepts. I think the Library of Congress subject heading list is quite a different animal from an indexing, subject-heading list required for periodicals.

This sort of representative sample as an experimental start-out phase would not be very marketable. Perhaps it would be better to combine it with the periodicals judged to be used most often. There was an interesting article in the first issue of the American Bar Foundation Research Journal by Olavi Maru² which studied citation treatments in law journals. It revealed that over fifty percent of the citations in law journals are to less than ten percent of the titles. When you get to less than twenty-five percent of the

¹ American Association of Law Libraries.

² 1976 *A.B.F. Journal* 227 (1976).

titles, over seventy-five percent of the citations are covered. Thus, it is possible to hit the most used sources, include representative types of journals in the sample, and create an experimental index in that way.

In this initial experimental phase, we also face the question of what data base to use. The easiest at the input stage is full text. At least there is no need to think about it. It also has the great virtue that there is no editorial intervention between the user and the author. It has, however, some great faults. First, as Ruth Kessler has mentioned, is the total reliance on the use of the terminology of the author. When LEXIS first started, I thought this would be a great problem. But I'm being proved wrong. Now that LEXIS is becoming accepted, there is a case to be made for the full text approach because lawyers are becoming familiar with the technique and are learning to use it. Given the inevitable imperfections in any form of indexing, the full text, key word in context approach may have the sort of imperfection that is easiest to live with. It is possible, however, that such an approach may be less acceptable for periodical articles than it is for cases. It is true that as periodical articles cover a wider range of subjects, getting into areas such as legal philosophy, legal history, and interdisciplinary subjects, the vocabulary explodes to such an extent that key word in context may be too difficult to deal with. There is another reason why key word in context may be weaker for periodical literature than it is for cases. That is the fact that periodicals are more apt to be researched by academic types of people. There is a strange quirk in the academic mind that seeks comprehensive bibliography. The full text approach does not guarantee comprehensiveness. The practitioner, on the other hand, seeks a handle on a problem and, therefore, is satisfied when the system feeds back a number of citations. He uses those citations to pull himself up by his own bootstraps. He pulls in more data by Shepardizing and by getting citations within the cases he finds, and so forth. But periodical articles are researched, at least by academic people, with greater need for comprehensiveness. I think, therefore, that a full text approach, combined with descriptors for subject indexing, would be ideal.

But, of course, there is a more basic fault with the full text approach, and that is its sheer physical bulk. I find it difficult to believe that the market would support a full text approach, expensive as it is to input; but this is a question of economics. It is also possible that full text could be cheaper because the alternative

requires investment of another type, one which can be even more expensive. The alternative, of course, is some form of pre-indexing. That requires the investment, not merely of typesetters in Taiwan, but of person power with expertise. That is the case for either abstracting or indexing. In abstracting though, the great investment comes in the fact that the articles must be read by someone.

It has been proposed that to solve this problem the authors or the editors of law journals should be included in the abstracting process. This, of course, would create problems of uniformity and of timeliness of response. At the very minimum, it would be necessary to prepare a handbook for abstracting—something perhaps as well known and well accepted as the White Book of Citations—so that each journal could develop its own expert on abstracting and could do it with some degree of competence. The problem in creating such a handbook is that there are very few rules of abstracting—at least very few that I know of. I suppose there is a need for some sort of vocabulary control in the abstracting process. Perhaps here, as in full text input, there is a need for additional descriptors, so that abstracts are not lost because of peculiar use of terminology by the abstractors. Abstracts also have the added advantage of helping readers to be more selective by reading the abstract rather than the entire article.

The cost of indexing lies not only in the process itself, but in the development and control of subject lists. A controlled subject list means just that. For example, if you have a title on the rights of aliens, and there is no term *aliens* in the subject list, you may not use *aliens*. You have to flip through and find the most applicable term. You may have to put the book under *immigration*. You might also decide that there really should be a subject heading for *aliens*. At that point, you have to define for yourself what will be put under *aliens* and what will be under *immigration*. In other words, you have to write scope notes and cross-reference from one term to the other.

A number of people have criticized the *Index to Legal Periodicals* by saying that it does not have enough entries per article. I don't think that is the problem. The problem, rather, is in the specificity and quality of definition of the entries. In fact, once the number of entries for an article gets too high, we face additional problems of clogging the system.

A similar problem arises when we consider providing a citator to periodical articles. There may be some question as to whether we

need a citator in a secondary area which is not governed by stare decisis. But first we should note that it is already being done. The Institute for Scientific Information is providing a citator for secondary legal literature. It is an extremely expensive system and, like the full text retrieval system, is very bulky and thus costly at the input stage. It shares with the full text system the virtue that at the input stage there is no editorial direction, and no thought necessary. In fact, it is simply a form of the key word approach—you identify a citation by key words, and if you can use the citation interchangeably with subject, it becomes a very handy retrieval device. But again, it doesn't solve the problem of giving too much to the researcher. A string of undifferentiated citations clogs the system. Thus, we would have the same problem that we now have with the *Index to Legal Periodicals*, where we sometimes have to go through five pages of undifferentiated citations under one subject for one year.

To solve that problem, I would like to make one closing suggestion: that we develop a system which will allow users to discriminate as much as possible at the output stage. It should be possible to limit searches to a certain span of time, to certain types of periodicals such as law reviews or bar journals, to one periodical title, to one jurisdiction, or to only leading articles. If such limiting elements are built into the system, then we can increase content and reach for comprehensiveness, and we can have pie-in-the-sky, by-and-by.

SESSION II

Technical Problems and Procedures

JEFF MELDMAN, SPEAKER

I am going to address some of the same issues that we talked about this morning. However, I will try to organize those issues in such a way as to provide a framework for further discussion of the technical design choices that we face.

A system like this does not always start from scratch—that is, from a question like: “How might we best apply computer technology to this particular research problem?” Many of the systems we have discussed, like LEXIS and WESTLAW, did not begin from scratch. Both already had something going for them—some previously developed resource of which they took appropriate advantage. For LEXIS it was the full-text logical inquiry methodology developed originally by John Harty. For WESTLAW it was the content of West’s own headnotes. However, the close focus on these resources tended to constrain the possible design choices for a case research system.

We also might wish to take advantage of certain resources and therefore not start from scratch. But it will be a useful exercise first to identify the major design spectra that we talked about this morning. These are areas in which we will eventually have to come to some kind of decision.

The first issue is that of “text” indexing versus “classification” indexing. On the one hand, we can use an indexing scheme based

on words that appear naturally in the text. On the other hand, we can generate a list of subject headings or key-words that we will use to classify articles. Sometimes only the latter method is called indexing, but in both methods an index is created and used. The distinction is whether or not we pre-select the index words. Whether we use the entire document, or a section of the document, or an abstract of the document—that is a separate issue.

This morning we compared these two methods as if we might use one hundred percent text indexing or one hundred percent classification indexing. We noted that there were serious problems when either method is used alone. Some of the disadvantages of text indexing involve the large amount of input processing, the fact that authors may choose to use words in strange ways that researchers may not appreciate, and problems of that kind. On the other side, it is quite difficult to come up with a good classification scheme that will stand the test of time by being flexible enough to permit new concepts to be added. The scheme has to be rigorously enforced. People have to understand what the words mean and use them uniformly.

Because there are so many problems at both ends of this spectrum, does it not make sense to combine them? That is, if we design an index that is created partially from the words in the text, and partially from pre-selected classification terms, perhaps the shortcomings of each will be mitigated by the advantages of the other. For example, proper nouns and new words tend to escape classification, but they could be picked up from the text itself. Jim Sprowl also has pointed out that the power of a text index can be increased by the addition of categorical terminology.¹

Even if we take the view that it is best to combine these two indexing methods, we must face the question: "How much of each?" It is likely that by combining the two, we need less of each. (See figure 1.) When used in conjunction with text indexing, the classification scheme perhaps would need fewer terms and fewer hierarchical levels. Similarly, the text index perhaps could be generated from less than the whole document.

This leads us to the second major design choice: the size of the unit to be searched. Searching could be done just on the title, or it could be done on the entire document. In the latter case, we would have what is called a "full-text" system, such as LEXIS. In addition,

¹ James A. Sprowl, "Computer-Assisted Legal Research—An Analysis of Full-Text Document Retrieval Systems, Particularly the LEXIS System," 1976 *A. B. F. Research Journal* 175 (1976).

OPTIMAL SYSTEM?

Combination of
a text index from less than full text
and
a simpler classification index

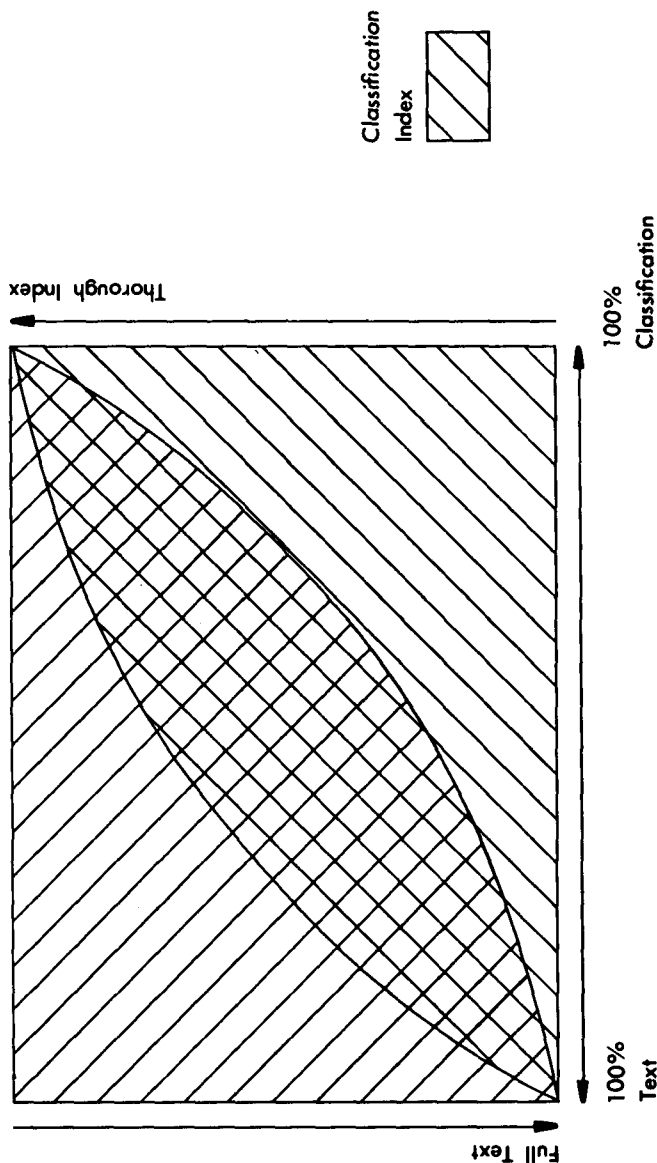


FIGURE 1
COMBINED TEXT AND CLASSIFICATION INDEX

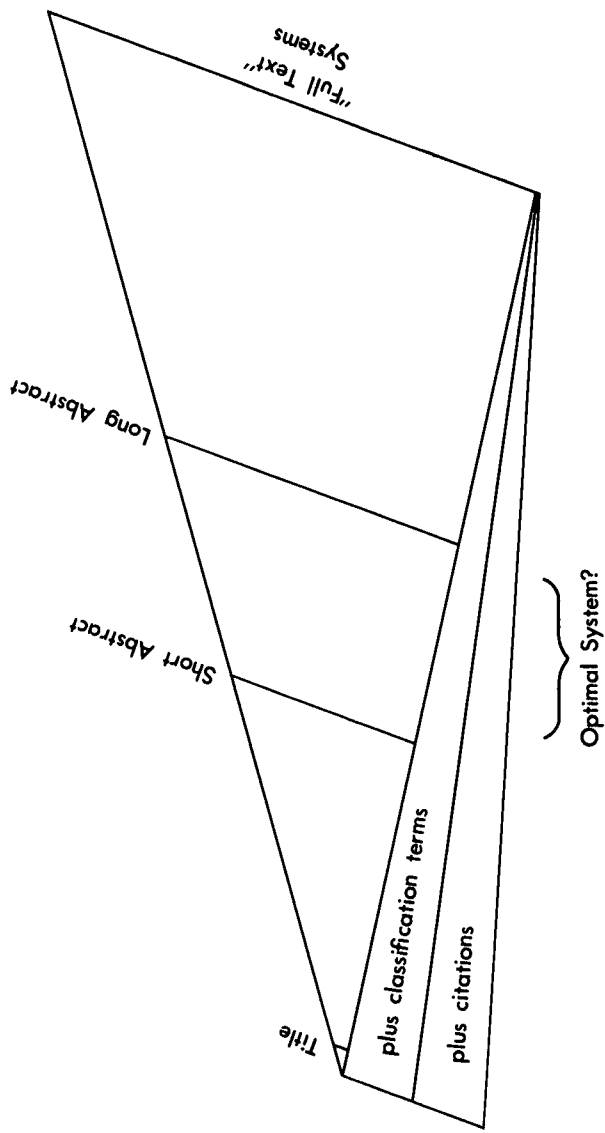


FIGURE 2
SIZE OF THE SEARCH DOMAIN

we might include a layer of classification terms, and a layer of citations as well, and then use less than the full text for searching. (See figure 2.) Now we have a difficult design choice. If we use less than the full text but more than just the title, we need something in between, like an abstract, to work from. What kind of abstract? How long? Prepared by whom? These were some of the questions we pondered this morning. A good example of very short abstracts are those used by the *A.B.A. Journal* at the top of each article. These are only a couple of sentences long. The sample abstracts already used in IDEA, on the other hand, are about one page in length.

We have to understand that there are two functions served by an item in the system, be it an abstract, a title or the entire text. One function is as an output to the user, and the other is the domain over which the search will take place. Let me separate these two. The output of the system could be a citation that lets you go to the shelf and look up the article. Or, it could be something in between on the spectrum, like an abstract, or it could be the full text. For purposes of output this entire spectrum is open for choice. In addition, for purposes of doing the search itself a similar spectrum is open. It is not necessary to choose the same point on the spectrum for both purposes, although it may be handy to do so. For example, one might have a system that did its logical searching on titles plus classification terms, but where the output to the reader would be abstracts. I do not know whether that particular combination would be very useful, but I want to show how these two functions need not match.

In the absence of full-text output, the advantage of output abstracts is that they usually tell the researcher whether or not it will pay to go to the shelf and look at the article. Titles, on the other hand, generally do not. How lengthy an abstract is necessary for this purpose? This is not clear. Think for a moment about the West headnotes. How often do you determine from a digest entry how valuable a case will be for your research? My own experience is that they are not complete enough for this purpose. We need to find out just how far along the spectrum from title to full text we must go in order to answer this basic question: "Do I now want to shift from this computer system to the manual system for further research?" Whether or not that point on the spectrum lines up with the optimal point for doing indexing is not clear.

There is a third major area for design choice: the mode of response of the system. At one end of this spectrum we have

printed reports that come out every month or every year. These are printouts like the early KWIC indexes. Moving along this spectrum, we then have specially requested reports, usually run in batches, for which you may have to wait a day or a week. Eventually we reach the other end of the spectrum, the interactive query system for which the data base is kept "on-line," and from which you can receive "real-time" responses (a few seconds or minutes). Depending on the particular research you are engaged in, you might prefer a different point on the spectrum. An optimal system might have more than one level available. This would give the researcher the option of finding out quickly (at greater cost) or more slowly, according to his or her research needs at the time.

By now it should be clear that the question of what functions we want the system to serve, where they fit on these spectra, and how much flexibility we can afford to put into the system, is itself the fundamental problem of design choice.

We talked about one other design choice this morning, namely, the question of how best this project might get started. We are certainly not going to try to build a computer-based system containing all secondary legal material, even if we could define the boundary of that field. But we have to start somewhere. One suggestion was to concentrate on a specialized area of law. In fact we know that efforts already have begun in a few specialized areas. Let me suggest that an alternative would be a general cut across a small number of journals. In the same issue of the *Bar Foundation Journal* that we discussed this morning, Olavi Maru lists and analyzes law journals according to how frequently they are cited.² A very small number of journals are cited a very large proportion of the time. This might be an economical way to start the prototype.

It is clear that we are discussing the fundamentals of information system design in the context of our particular goals. Naturally I have tried to apply some of the same methodologies that I teach in the classroom. One of these methodologies is a comparison of descriptive and normative models. In other words, we ask: "How is this kind of research done now? What are the possible, better ways to reach our goals? What can we learn from applications in other areas?" And then ultimately: "How do we get there from here?"

Trying to apply this methodology here, we run into some problems. Even though many in this room are unquestionably experts in the field of legal research, there is still a lot that none of us

² Olavi Maru, "Measuring the Impact of Legal Periodicals," 1976 *A. B. F Research Journal* 227 (1976).

knows about the way lawyers perform periodical research. In any case we certainly have not prepared verbalized descriptions that can be used as a basis of comparison against proposed normative models. And when it comes to normative models—how the research ought to be performed—we are even less knowledgeable. We are not in a very good position to choose points on the spectra I mentioned because we do not know the consequences of choosing this instead of that. We do not know how to form normative models that determine optimal points along these dimensions.

All of this suggests to me that at least some part of this project ought to be devoted to studying periodical research itself. This probably entails a prototype system that is more flexible than we might expect any final system to be. With such a system we could experiment with different levels of abstraction, different mixes of text and classification indexes, et cetera. Of course, this would be a very expensive and impractical design for a full-fledged system; we cannot possibly afford that amount of flexibility. But we can put some flexibility into the prototype in order to learn to make more intelligent design decisions.

MILDRED MASON, SPEAKER

For those of you who are not familiar with Information Dynamics, we have an on-line data base known as BIBNET, which is monographic material both in the field of law and across the board from the Library of Congress. The data base consists of catalog records from the Library of Congress, including law cataloging, plus catalog records from Harvard since October 1973. Since I seem to be the only person on the panel representing the commercial market, I would like to make my comments in relation to the realities of the marketplace.

Those of you who were at the American Society for Information Science meeting after the AALL¹ convention last year heard Paul Zurkowski lecture on the cost of having a data base available on-line. As Executive Director of the Information Industry Association, he is eminently aware of the costs and all of the problems involved in going from the ideal concept that we are dealing with now to the end result of having someone sit down at a terminal and

¹ American Association of Law Libraries

retrieve the information. His basic premise was that these costs can be divided roughly into thirds. Of the total amount of money spent, about one third will be needed just to obtain the data needed for the data base. Approximately one third will be spent for the development of the data base, and another third will be spent for marketing the product. You must consider all three of these factors, and you are treading on dangerous ground to concentrate on one at the expense of another.

It makes no difference whether this is a commercial or non-profit venture. The costs are there in one way or another. So I would like to touch briefly on these three areas.

The first is obtaining the data. You might just buy it outright. For example, a group could go to the H. W. Wilson Company and try to buy the ILP. Such an offer would probably not meet with much success, but this is a conceivable way to get a beginning data base. If you do not buy the data outright or make some financial commitment for current, ongoing procurement of it from some source, you must then obtain the data yourself. This involves the expense of staff required to get the documents that are to be used for the data base. One way or another, you must pay to get the input to the system, either as basic outlay for the data, or for the support staff and organization required to put it together. The data has to be in some kind of standardized format. That has to be considered as the first step in developing a data base.

Once you have this material, the next problem is getting it into machine-readable form. This is a production operation which requires staff and equipment. I will use our own operation as an example. When we get a catalog record from Harvard, which they have coded, we input it into our computer. Someone keys the record from a worksheet, verifies the proof list, goes back on-line to edit the errors in the proof list, goes through another editing process, and ultimately we end up with a clean record. The other part of this operation is with the Library of Congress cards, which have not been coded. We have a whole group of people who code records. We put those through another kind of system called Four-Phase where the terminal operator keys the record in, and then keys it in over again. If there is an error, the system "beeps" and the operator corrects the error. There is a tremendous expense involved in getting something from raw data into machine-readable form. It then requires further processing to get it onto a tape that will be acceptable to the computer.

Another part of development is retrieving the data once you

have it in the computer. This is where the search system is very important, because it must be easy and relatively flexible. There has been some talk about developing a system. It is not entirely clear in my mind whether we have been discussing developing a computer retrieval system or just a whole new concept of development. I personally think that it would be unduly complicated for a group to try to develop its own computer retrieval system when there are any number of commercial systems already available and being used successfully. They have the facilities for being way up front, as far as technology is concerned, and the capabilities for having the best implementation of an on-line system. A group that is contemplating this project should instead focus its energies on the problem of obtaining the data in a useful form and then contract out the work of making it available in a retrieval system. One other factor in the development is the ordinary maintenance of the system, which is forever changing. No matter what problem you solve today, there will be new problems tomorrow. You not only have a production staff, but there are programmers and systems analysts who continually monitor the system to be sure that it continues to work properly.

The third major area to consider is marketing. That is more interesting to me than to those of you who simply want the results of an on-line system. But for financial reasons, the problems of marketing a data base can't be ignored. It's very important to know whether the market really is there, who the users are going to be, how you are going to reach these users, and how you are going to convince the users that the data base you have really is something that they need. Also, how are you going to train them after you convince them? Once you cross these hurdles, the system itself has to be very easy for them to use. It has to be in a framework which is not full of other complicating factors. Someone this morning brought up the matter of compatible terminals. If the end result is that a law office or law school has to have a LEXIS terminal, a BIBNET terminal, a WESTLAW terminal, and a word processing terminal, it will be an unhappy experience for everybody concerned, for both the people who provide these terminals and for those who use them.

Furthermore, each of these systems requires an understanding of how to use it. I have spent a great deal of time using our system and examining our own data base. But every time I try to use the Lockheed data base, even though I've been through the training class twice because I failed the first time, I have to spend two days

getting myself together to use their system efficiently. If I had to go through this with LEXIS and WESTLAW and any other group, there would come a time when it would not be worth it. You would rather simply do it manually than to try to keep these multiple systems straight in your mind. Therefore, anything that can be done to reduce the number of kinds of systems with which the user has to work, will advance the use of the system. Rather than develop a system, you would do well to use an existing system that has related legal information in it and with which lawyers are already familiar.

To accomplish all these objectives does require a marketing effort. This is an element of cost that can't be ignored. It is the marketing people who find out from the user whether the system works for them. If it doesn't work, you have no one to pay for the system. You need to know what the problems are so you can go back to your development people and work the process through again until you are actually meeting the needs of your users.

The intellectual objectives of getting a data base for legal periodicals on line must be subject to economic considerations. These, therefore, should be kept foremost in mind by anyone planning a system from a long-term point of view.

BETTY W. TAYLOR, SPEAKER

The question of data base ownership has come to the forefront as recent developments have occurred in cooperative networking. These issues did not arise until the last few years when commercial concerns began developing their own data bases. They own them, and you purchase the service. The commercial interests control ownership and development design. The same is true of private groups that are establishing data bases. At the University of Florida, we developed a program for indexing Florida legal periodicals. I was taken aback when the Vice President of the University described how he had invested \$10,000 in developing an index to Florida legal periodicals that wasn't going to serve much of a community, as Florida is a very limited group. I am using this as an example of how you can pour money down the drain. The University has substantial investment in this data base to which there is very limited access. But as we develop a periodical network, this work should certainly go into such a data base.

The next question is what does the University do about its investment in this kind of development? Does it just give away \$10,000 worth of investment, or is some kind of licensing necessary for the University to recoup part of its investment in the system? These questions are just beginning to arise as we develop cooperative networking systems. Probably a prime example of ownership of a data base has occurred with OCLC and the cooperating libraries which contribute their time and money to expanding its data base. I have had some experience with the SOLINET arrangement with OCLC in which SOLINET may replicate all of their contributions to OCLC in its own computing center. With a cooperative national network of this nature, the persons who are members of the national system and making contributions own the data they are inserting, along with the source of the information. It is a dual ownership of the data base and dual control.

Then CONSER¹ came along, funded by the Council on Library Resources, and again the question arose as to ownership of the data base. CONSER sponsored input of this data by different institutions. Did the institutions own the data bases they were inserting into the national network? Did the Council on Library Resources own the data base because they were funding the work? Or did OCLC acquire ownership of the data base that was being inserted with funds from the Council on Library Resources? It was finally agreed that this was a national data base and would be generally available to indexing and abstracting organizations as well as to those libraries which were inputting, as well as to OCLC. The questions, then, of who owns the data base and who has control and what problems will arise in development must be considered when you start establishing a data base that is going to use the same kind of data. Who is going to own the data base that is stored somewhere and marketed? Who controls the design, i.e., who determines what we want as an output?

There are several groups in this country interested in establishing some kind of national legal organization or clearing house for dissemination of information. We need guidance as to what the law community would like to have in a data base. How would they like to retrieve the information and in what kind of format? We lack this kind of leadership in the law community. There have been suggestions that the ABA might provide this leadership, but we

¹ CONSER is the acronym for Conversion of Serials into machine readable form project. U.F. was among the participants and we, as an independent cooperating library, were included.

have not seen much evidence that they are going to exert any influence. These, then, are the things that we have to address ourselves to in establishing a data base. Somebody has to have the ultimate say as to how it is going to be designed and who is going to use it.

When you are developing a data base, the question always arises as to compatibility. There have been all kinds of articles published on compatibility and standards and availability. The terms are more or less intertwined and used interchangeably. There has to be some kind of standardization for a national data base in order to have effective national benefit from electronic networking. There has to be some kind of compatibility—not necessarily standard equipment, but certainly hardware that will be accessible from one data base to another. At the present time, if you wanted to search LEXIS and WESTLAW, do any work at all with PLATO in computer-assisted instruction, do cataloging with OCLC, and attempt to tap other data bases, you would have to have five terminals in your library. We will have to exert some influence in organizing these systems so that they will be accessible from no more than one or two different terminals.

Clark Hamilton participated in the American Bar Association second conference on computers and the law and he can discuss it more competently than I. These workshops were summarized in a book entitled *Sense and Systems in Automated Law Research*.² The following questions of compatibility were raised: what does one mean by compatibility, and compatibility with what? It became apparent that the question was very complex and that compatibility has many facets. The question arose as to whether compatibility means that there should be one piece of hardware that could provide access to all of these data bases, or whether it means compatibility as to the user's method of access. The ultimate in any system of networking would be to have a single, cheap terminal which could have access to all data bases of legal materials. It would be better still if the user could use the terminal with little or no prior training and special skills or even logic. It would be delightful if the terminal would use common language or function keys for any and all of these data bases. Compatibility doesn't, or shouldn't, mean that all pieces of peripheral equipment performing the same function must be identical. We wouldn't necessarily recommend that there be only one piece of equipment to access all the data bases.

² ABA Section of Science and Technology, *Sense and Systems in Automated Law Research*, edited by Ronald A. May, 1975.

It was also suggested that there ought to be some kind of compatibility for inserting retrospective material into the data base. Different organizations have been discussing standards in various fields. Some library organizations have recommended that there be strict standards to which everyone must conform. Take OCLC, for example. It is recommended that everyone must conform to the MARC format or you just don't insert into OCLC. Every organization that is considering networking at all is talking about some kind of control. But a European group is talking about establishing a network combining many different types of library data bases. They are suggesting that there be no control at all, but rather that each organization inputting into this network voluntarily control the data base, so that it would be accessible but not necessarily standard with the other data bases that are entered into the system. I have not heard that this network has been established or whether these recommendations can really work.

Mildred touched on trained operators, and what she says is very true. We have the WESTLAW system in the law library. We had one day's training for nine of us; each person had an hour and a half on the terminal. That was all that was required for us to learn how to access WESTLAW, and we were all set and ready to go. The next day we were on line and on our own. We started encouraging people to come in and test out the data base. But we discovered that we don't think the way a machine does, and that an hour and a half of training was nowhere near enough to produce effective operators in the WESTLAW system. We finally decided that there must be someone with law training assisting at the terminal, even if some of our other librarians without law training were using the system. It is necessary to know legal terminology and phraseology to use it effectively. We now have two people on the staff who have become quite expert. We used twenty-one hours of computer time free of cost, and these two people are just now beginning to gain a real competency with the system. You have to know what you are doing to use any kind of terminal effectively.

DAVID McILWAIN, SPEAKER

I would like to introduce you to systems analysis and steps involved in the automation process because some of you here today

may have to deal directly with systems analysts if you decide to automate the ILP or some form of periodical abstracts. I have worked as the analyst on a natural areas inventory data base system for the Nature Conservancy and as an instructor in hardware and software for the U.S. Army. But, rather than discuss what would be involved technically, such as what parts, what line speeds, which computer languages and what network structures would be appropriate, and what the cost options are, I will outline the basic steps in designing the system to let you see why the analyst will ask all sorts of nitpicking questions such as what is the maximum length abstract to be expected, the longest title to be included, etc.

As a first step, there must be some organization that represents the user population. This organization must answer such basic design questions as: What should be and what should not be automated? What is the potential market? Who should pay for it, etc.? The organization and its structure is therefore very important. One of the results of this conference should be a better idea of what or who that organization should be in order to implement the automation project. The systems analyst will need to talk to representative users on an almost daily basis as he works out the details of what should be in the system and what it should do. This world is full of software packages that don't satisfy the user's needs and desires, simply because of a lack of communication.

The next step is to prepare the basic design specification. This is more than a general statement of intent; it should include considerable detail even to the types of searches required.

A possible specification might be to limit the abstract to a maximum of 500 words. This would provide the analyst with important information: 500 words times 5 characters per word equals 2500 characters for that part of the computer record. Answering this kind of question will give the analyst an idea of the size of the basic record for each entry. With an estimate of the number of abstracts expected and the projected growth rate, the analyst will have an idea of how much memory will be required and where on the hardware range the data base will fall.

To develop the input/output package, the analyst should know whether users will be limited to large firms and law libraries, or will include everyone, with sole practitioners using dial-up service.

In this way, the analyst starts to work with the basic design statement. This document is useful, partly as a defensive measure and partly to get everyone coordinated. It can be circulated to the profession and adjusted according to the responses received.

It is helpful to identify one person, I prefer to call him a fall guy, who will be responsible for coordinating the technical processes of systems analysis, actual programming, identification of test sites and hardware, selection of test users, and preparation or purchase of the initial data base. One responsible person pays more attention to details than a group of ten. You could call this person the "principal investigator," if you prefer. He or she must have experience in managing a software production effort, and must have almost daily recourse to the people who will use the system as well.

There should be frequent, regular reviews by the responsible organization as the design progresses to make sure that what is coming out is acceptable.

The next step is to prepare a technical specification, more specific and detailed, that can serve as the guide for actual programming.

Then the user documentation, the training manuals, and the whole package of documentation necessary to give the system written form must be prepared. The monitoring group should pay close attention to this step and circulate the results to the profession for constructive comment.

Next, the programs (or a core set) are written, tested, and made available to the initial users. The user population is slowly expanded, the bugs worked out, more types of searches implemented, additional test sites set up and the net expanded (if that's the end design).

Then begins a solid marketing effort, not to make money, but to identify potential users. They need to be educated, then converted and their additional suggestions must be considered.

The last step is to go back to the analysis phase and come up with Version II, based on the collection of user suggestions which are outside of the basic design. Ideally, the systems analyst considered most of them prior to Version I, but omitted them for various reasons. However, the analyst did nothing to preclude making changes or additions for Version II when he could take advantage of more funding, a bigger market, and additional users.

I will give you a specific example of some of these problems from my experience. The International Code of Nomenclature for the naming of plants is a specific, fairly rigid system designed to give unique names to newly identified species. There is a genus name, a species name, probably a sub-species name, possibly a variety and/or sub-variety name below that. The Smithsonian did some analysis and decided that any plant's scientific name could be

contained in 48 characters. (There were some really weird plants in Hawaii which came out to 47 characters; they almost blew it.) Limits on name lengths are necessary because each additional character stored results in a continuing cost. These are the kinds of considerations that the analyst will make when he and the organization are weighing the tradeoffs. What *is* the economic length for an abstract? This is a cyclical process, where analyst and user interact to produce Version II and those beyond. Eventually each understands the other's problems; the analyst really does become your analyst in a work-related sense. But the basic design decisions must be made by those who represent the user and the profession.

SESSION III

Copyright Implications of the Project

L. CLARK HAMILTON, SPEAKER

On top of everything else that you've discussed today, you have to consider the subject of copyright as it relates to any activity concerned with information. Information, of course, is a product of human intellectual creativity. Under our law, if the intellectual product is that of a person working as part of a governmental organization, then the product is in the public domain. However, a great deal of what we've talked about today is the result of private efforts, be it an individual author or publisher.

I'd like to talk about where we stand on the revision of the copyright law of the United States, because it does affect very immediately many of the things that were discussed today. Attempts at revision of the U.S. copyright law have been going on now for twenty years. Revision of the present law, in effect since 1909, has been delayed by efforts to accommodate to new technologies. In 1967 the matter of computer use of copyrighted works was considered by various interested groups to be a major impediment to passage of the bill. In 1974 the Congress passed legislation which created a National Commission on the New Technological Uses of Copyrighted Works. The Commission, known by the acronym CONTU, is presently studying the problems associated with the use of copyrighted works in computers.

The first report of the Commission will be submitted to the Congress in the summer of 1977.

The use of copyrighted materials by cable television broadcasters has also been an area of controversy that has delayed passage of the copyright revision legislation. There have been two cases in the area of cable television in copyright that have gone to the Supreme Court of the United States. The first case, *Fortnightly v. United Artists Television, Inc.*, 392 U.S. 390, was decided in 1968. In that decision, the Supreme Court held that the reception of broadcast signals containing copyrighted materials and their retransmission locally by cable broadcasters was not an infringement of copyright under the 1909 law. The case did not cover the situation where a cable operator imported signals from long distances and rebroadcast those signals locally. This area was covered in the case of *CBS v. Teleprompter*, 415 U.S. 394, in 1974. In that decision, the Supreme Court extended the doctrine of non-liability of cable broadcasts under existing law for liability for copyright infringement. The Supreme Court held in this case that even the importation of distant signals was not an infringement of the copyrighted materials contained in those signals. The Court in both of these cases noted that any payment of royalties of cable operators to copyright owners would have to be achieved through legislation rather than through judicial interpretation. The point I wish to make relating to cable television is that this is another example where the present 1909 law is not equipped to deal with a new technology.

Regarding the present status of copyright revision, I am pleased to report that the bill, S. 22, passed the Senate by a vote of 97 to 0 in February 1976. The bill is now before the Subcommittee on Courts, Civil Liberties, and Administration of Justice, Committee on the Judiciary of the House of Representatives where it is being marked up. We hope the mark up will be completed by the early summer and that the revision bill will be signed into law sometime in the fall.¹ This is much needed legislation and it has taken a long period of time—almost 20 years. Not all of the matters involving new technology will be covered by this bill. Specifically, those areas of library photocopying and computer uses of copyrighted materials are the subject of separate inquiries by CONTU with recommendations on legislation to be made to the Congress in 1977. I

¹ The new copyright law was passed by both houses and was signed into law by President Ford on 10/19/76. It will take effect on January 1, 1978.

should note that the charge by Congress to CONTU was to make recommendations in these areas not for just the immediate future but for ten or twenty years hence so that any legislation that is adopted has a prospect of being viable into the twenty-first century.

There are many who feel that the concept of copyright, namely the right of an author to control the use, publication, dissemination and sale of his or her intellectual product is an anachronism when viewed in the context of our modern communication technologies. A number of sectors in our society have been highly critical of copyright law. Educators feel copyright inhibits the free dissemination of information which they maintain is essential to the development of our society. Librarians, while subscribing to the concept that the author should be rewarded for his intellectual product, do not wish to be burdened with the responsibility for monitoring and acting as a collection mechanism for any royalties that may be due to the author for photocopying.

Public broadcasters feel that theirs is a mandate to disseminate information and culture to the broadest possible audience and in doing this should be able to use various types of intellectual property. They also agree with the concept of the rights of authors and other creators of intellectual property, but they would like to be able to grant themselves a compulsory license to use any materials that they so chose. This, of course, runs afoul of one of the basic premises of the law of copyright, that is, the right of the author to control the use of his property. Realistically speaking, a number of the basic concepts of copyright have been and will be further eroded by new information technologies. Information is presently being created, managed, manipulated and transferred in ways that none of us fully comprehend. We discussed today automated photocomposition systems as a most economical means of creating printed books. Of course, the by-product of such systems is information in machine-readable form. When one couples this information with data communications systems, computer systems, and satellite transmission systems, one begins to understand how complex the problem has become. The public is generally unaware of the scope and variety of information that is used in both corporate and government information networks. These networks are worldwide in their scope. They move vast quantities of information within countries or from country to country at very high speeds.

I think we will see in the future an increasing emphasis on the concept of compulsory licensing in the field of copyright and the new information technologies. I will give you a few examples of

this concept. In the copyright revision bill there will be compulsory licenses for cable broadcasters and for certain types of works to be used by public broadcasters. There will be the continuation of the compulsory licenses for making and distributing phonorecords and there will be a compulsory license for the public performance of works in jukeboxes.

There are systems within both Sweden and Germany whereby scientific and technical journals can be reproduced by both private and governmental organizations upon the payment of a license fee. Proceeds from these fees are turned over to societies of authors. However, it appears that in these systems in both Sweden and Germany there have not been effective methods devised to date to distribute the royalties to the individual author.

Another area of copyright and information technology that relates to our discussions is software protection. The U.S. Copyright Office has been accepting computer programs for registration since 1965. To date, almost 1,500 programs have been submitted by various hardware manufacturers and software companies. The programs are submitted under the category of books. Whether or not these programs can be registered has not yet been subjected to court challenge.

The subject of software protection has been dealt with in a series of international conferences of experts sponsored by the World Intellectual Property Organization in Geneva, Switzerland. I would like to state that these conferences have produced some definitive results; however, there is a real difference of opinion among the conferees as to whether legal protection for software should follow the lines of contract or trade secret law or whether it should use the concepts of copyright. When we talk about software we talk about that range of programs extending from computer operating systems to information retrieval systems such as LEXIS or WESTLAW; and when you are inside of the computer system, particularly within an information retrieval systems, the distinction between the operating system, the information retrieval system, and the information being processed becomes somewhat blurred. But if you approach this from the viewpoint of copyright, all of this material within the computer system may be subject to copyright.

In summary, I think I can state that we as a society have been extremely successful in creating information technology but have been much less successful in coping with the impact of these technologies, particularly as the technologies infringe upon intellectual property rights. I hope that the National Commission

(CONTU) will be successful in its efforts to produce viable recommendations for legislation which will last us at least as long as the current 1909 law has lasted. I am probably overly optimistic, but the mere fact that we do have a National Commission in existence reflects the fact that our society—copyright owners, copyright users, and technologists—has recognized the problem and is making an effort to solve it.

SESSION IV

Feasibility and Practicality

CHRISTINE BROCK, SPEAKER

The agenda states that the participants in this session are to discuss the feasibility and practicality of the proposal for computer access to secondary legal materials. It further poses the question, "Who will use the system at projected costs?" Thus far, we have not been able to settle on a system and therefore can hardly estimate feasibility, practicality, or cost. In order to attack those questions, I shall propose a variety of systems and estimate their potential and price.

There are several options open to us, some of which have already been discussed. The first and simplest is to improve the *Index to Legal Periodicals*. If we assume that everyone who is currently receiving the ILP is interested in having a better ILP, then there are 3200 subscribers to pay for any improvements. It would be possible for Wilson to add \$10 to the price of each subscription and hire a new indexer for \$32,000. Given the necessary freedom, there are many things which a skilled and knowledgeable indexer could do to improve the *Index to Legal Periodicals*. I believe that a large number of the problems which have been mentioned yesterday and today could be solved manually. The first possibility, then, is to approach Wilson, pinpoint specific problems, and propose solutions. We do not know whether Wilson would cooperate, but the possibility for simple remedies should not be ignored.

The *Social Science Citation Index* has been mentioned here, but we don't have adequate information about it. We don't know how many law related titles it includes, but every time I hear someone mention the estimated number, it becomes larger; it was 40 earlier, then it was 60, now it appears to be 120. We should find out what their plan is and what their limits are. Maybe they are putting an index on-line. We should know what subject headings they are using and what is happening before we go further with this matter. It would be ridiculous to duplicate their work if they intend to continue multiplying the number of periodicals indexed on-line at the current rate.

Alternatively, if our proposal to Wilson for improvements in ILP were successful, we would then inquire as to when they plan to put ILP material into machine readable form. I understand that they *are* planning to do this. This does not necessarily mean that it will go on-line, but having the material accessible in machine readable form would certainly be a major step towards our goal. Maybe Wilson would permit the use of their material. Mr. Harrington suggested yesterday that costs for this type of project can be cut by as much as fifty percent by having material that is already in machine readable form. Perhaps we need a survey to see who would use this product if it were not compatible with either the LEXIS hardware or that of other data bases that were already being used.

The third possibility would be to combine indexing and abstracting, which is quite a different proposition from those previously mentioned. We must consider the size of an index when we propose expanding it to include abstracts. *Index to Legal Periodicals* indexes some 1500 separate issues per year—not titles, separate issues. If we estimate between eight and ten indexable items per issue, that would give us a figure of 12,000 separate articles to be abstracted per year. Peter Schipma of the Illinois Institute of Technology informs me that entering an abstract of 3500 characters costs approximately \$50. He estimates that about \$35 goes to pay the personnel who solicit the author abstract, read the article and check the accuracy of the abstract, add descriptors if necessary, and, if the abstract must be entirely rewritten, send it to a professional abstractor for rewriting. The other \$15 covers inputting and verifying cost. If there are 12,000 indexable articles per year in ILP, it would cost \$600,000 to prepare and input abstracts in this matter.

The IDEA abstracts prepared by Damon Swanson are between

1000 and 1200 characters long. If all of the citations are included, that figure goes up to 4500 characters. James Sprowl's article in the *American Bar Foundation Research Journal* states that the current input typing cost is \$2.50 per thousand characters. Thus, there would be an increase in typing costs of almost \$10 per article if citations were used. This is a substantial difference; putting the abstract cost at \$2.50 per entry.

It seems difficult to discuss the question of a subject heading list and control apart from Library of Congress (LC) subject headings. I don't think that the law subject headings in LC are adequate as they stand, but a thesaurus based on a revised LC subject heading list combined with a full-text search of abstracts should give quality retrieval. I feel very strongly that any thesaurus or new ILP subject heading list should mesh with LC subject headings so that we could sit down at our OCLC¹ terminals and get a subject search print out that approximates a part of *Current Annual Legal Bibliography*. We should not be saddled with separate searches for periodicals and treatises.

In an article in the March 1975 *ASIS Journal*, Samuel Waters from the National Agriculture Library proposed the creation of a data base where *Chemical Abstracts* would be combined with OCLC. I don't know if anything came of his proposal, but it is an interesting idea with some substantial advantages. The same kind of combination for law would be very exciting.

I don't see any inconsistency in our approaching all three of these possibilities concurrently. I suggest that three committees be appointed or formed. One would prepare a proposal and see whether Wilson is willing to improve ILP. The second would study the *Social Science Citation Index* and obtain cost proposals on adding to it or using Wilson's machine readable data whenever that comes into being. The third committee would prepare a proposal for abstracting articles in legal periodicals.

Finally, my concept of the ideal system would be one in which we would choose a data base already in existence, such as OCLC; the law review editors would add LC descriptors to author abstracts (which would be included as a part of every article in a law review by virtue of rules to that effect incorporated into the Harvard "White Book"). These abstracts could be input directly into the data base just as we input cataloging into the OCLC system. This would

¹ OCLC stands for Ohio College Library Center, an automated cataloging system in wide use in academic libraries.

be a comparatively cheap way of building a data base, and I think that law review editors could be trained to handle the system as capably as catalogers do. Whatever faults resulted would be minor compared with the advantages obtained and the offset in cost.

JOSEPH CIESIELSKI, SPEAKER

When I received Mr. Swanson's letter concerning the proposal in IDEA, I went to the law review editors and asked them what they thought about the abstract in IDEA.¹ They were enthusiastic and decided that they would like to try it with something in our law review. It was decided to attempt to abstract a fairly short article which was poorly written, but seemed to be on a current topic. It had eighteen type-written pages with 35 badly constructed footnotes. They rewrote the paper, making it 25 pages, and added 60 footnotes. In the process, they developed a very good abstract of less than three hundred words. It was then decided to try assigning words and phrases as had been done in IDEA. They came up with words and phrases that I could find in my LC subject list and West. It was concluded that the IDEA model could be followed without any problem.

The editors then asked some of the students who were writing notes whether it could be done, and they agreed to try. We then considered how else the abstract could be used. One possibility was to have the abstracts done well in advance of the publication date and use them as flyers to drum up more business. Finally, we planned to accumulate the abstracts and put them in the final issue of each volume with the index and the title page.

All that sounded very good. The editors then approached the dean to try to get enough money to do it for the next issue; the dean would not part with additional money to add pages, but had no objection to using abstracts within the set budget. The present board has decided to give abstracting a try.

I think it is a beginning, an alternative, to have the editors of the law reviews and the writers of case notes and comments do the work and come up with abstracts. Abstracts could then be picked up by an on-line system or by a publication such as *Chem. Abstracts* or *Psych. Abstracts*.

¹ IDEA, Vol. 17 #4.

I then considered the problem of a thesaurus. I had heard about Betty Taylor's fine work and thought we could borrow something like that. Our law review editors thought that words and phrases would be a problem, as would having to re-do the citations. We decided that we could do only abstracts, leaving words and phrases and citations for future input by the publisher or the firm that decided to put the material into a data base. If you are selling the idea to a commercial group, that would be one way of keeping costs down so that they would not have to hire someone to do the abstracting. They would only have to add words and phrases, which they could get from LC, and then make it available on-line or otherwise.

I'm not sure that on-line is practical for a school such as mine which is small and has a very low budget. If we could have printouts frequently cumulated, however, we could afford up to \$2,000 a year for an abstracting service. I would like to see some group pick up the abstracting that is done by IDEA, and I would also like to see this group make some recommendation as to how abstracting should be done. I am not fond of the full text idea, nor am I fond of ILP. Abstracting seems to me to be the best way. And how better can it be accomplished than by putting the onus on the editors? They can always add more editors to the law review.

WILLIAM G. HARRINGTON, SPEAKER

We are here for a conference that is billed as a discussion of computerized access to secondary legal materials. I would like to suggest that that subject was not dealt with very much during yesterday's discussion.

To start with, you are talking about the *Index to Legal Periodicals*. In the course of my consulting work, I have had occasion in the past couple of years to spend a good deal of time in law offices of major firms in all parts of the country. I spent a lot of time prowling around in their libraries. The problem of access is not just one of index or reference. I can't ever remember having been in a firm library that has as many as twenty legal periodicals of any kind.

You are talking about indexing 300 or 500 or 1200 periodicals or

whatever. But, whether the index is on a computer terminal or in volume form, the lawyer in a firm is going to say, "Isn't that nice. Look at all the titles to all the articles I don't have and can't get."

The problem of access is not going to be solved by improving the index. It is going to improve it for *you*, so therefore if you want to tinker with the *Index to Legal Periodicals*, my reaction is: go ahead and tinker. You are performing a service for yourselves, but you are not doing anything for the legal profession.

Tinkering with indexes is trying to square a circle. A good index, according to the information management consultants I work with, is inherently impossible. As far as the practicing profession is concerned, they don't much care what you do about it.

Now, turn to the computer. I don't want to sound condescending, but I'm sitting here listening to the kind of discussion I heard ten years ago. You are rehashing questions that were discussed in a very similar way by the people who were motivated to build what we originally called OBAR.

Lawyers involved in that project perceived that access to legal information was inadequate. We were talking then about primary materials to be sure. (Some have said that the distinction between primary and secondary materials is not all that great.) At that time we had in mind case law and statutes and had not expanded into any other materials that are regarded as primary. Primary, from the standpoint of LEXIS, is non-copyrighted. We went through all the discussions as to whether to index or to abstract and came to certain conclusions that I think were valid.

In the first place, the ideal is for the lawyer to have first-hand contact with information of whatever kind. If all he has to deal with is Blackstone, then he can be sufficiently acquainted with it and doesn't need any additional form of access. Beyond that, the amount of information increases so you cannot touch it directly. You have to go some other way.

Everything you do is a compromise. Whatever device you adopt, you are separating the lawyer from the information and interposing between him and the information someone else's system and someone else's judgment.

A full text system has, in my mind, only one disadvantage: it is expensive. A full text system can have descriptors added to it. Full text is not a rigid format which should be regarded as a sort of philosophical commitment. There is no reason why you cannot add descriptors; they are simply an element of full text retrieval.

The advantage of full text retrieval, if the money is available, is

that a portion or all of the text of an article can be made to spill forth from the terminal if that is what the researcher wants. Since all journal articles are not that long, it really is quite within the realm of practical possibility to print an entire article on the printer terminal. In addition, it is relatively inexpensive. So I continue to regard full text as an ideal, and *good* abstracting (I think that adjective is a tremendous stumbling block) is an acceptable compromise to full text which may be necessary because of the economics of the situation.

I frankly think that very few of you have a real comprehension of what computers can do. The computer is a very flexible tool that can be made to do pretty much what you want it to do. As a matter of fact, for both the legal profession and for libraries, the worst tragedy would be for the tail to wag the dog. Computers are a tool which you employ as you want them to be employed.

Much of the discussion here has centered around what the computer types call "whistles and bells." In other words, the discussion has revolved around whether we are going to paint the car yellow or red, and no one has decided whether we are going to have a Honda or a Buick. Basic decisions are not being made. There is a tendency to look at the admitted imperfections of the computer and therefore to reject much of what it can do because it is imperfect. No one ever said it is perfect, and it won't solve all problems. The point is that it can make a contribution. One should not be reluctant to take advantage of this contribution because there are limitations to its capabilities.

What do I think can be the consequences of this conference? You are not going to build a computer system. You don't have the time or the money. The Mead Corporation has something like 30 million dollars tied up in its system. You are not going to design a computer system. But you are, I hope, going to define a data base. Other people who are going to put this data base out and make it available commercially or otherwise, will look to you to determine what the data base should include. Frankly, your judgment of computers isn't worth a damn, but your judgment of a data base should be very good and there is nobody in the computer business that could do better.

Your contribution, then, should be in defining the data base—defining it in two counts in my judgment. One is in terms of scope. I suggest that you define the ideal data base and then set priorities, i.e., we would like to have everything, but short of that, we feel it's more important to have this than that, until the money runs out. I

feel certain that sooner or later somebody is going to pick up some of this material. You are in the position to decide what should be picked up first and what the data base should be.

Secondly, you are also in the position to describe the format, and that can be very important. There was some suggestion that it would be desirable to be able to search chronologically and by jurisdiction. In order to make some of these kinds of searches, you will have to add to the text, because the journal article itself will not include all the necessary data. So there is a certain body of additional information that you should specify, whether you decide on abstracts or full text, or even if you finally decide on index headings only. Any worthwhile computer system enables you to manipulate those things on a segment basis, so you can tell the computer that you want to see whatever information you ask for within these basic limits. What are those limits? I suggested chronology and jurisdiction. I am sure there are others that occur to you in your experience in working with this material.

Out of this conference I hope there will come ultimately a group of recommendations that can be given to a commercial or other enterprise describing what the data base should be, how it should be formulated, and who will use it. Tinkering with the *Index to Legal Periodicals* is a non-computer project. To use a computer to manipulate a one or two or even ten volume index is a waste of time and money. I suggest also that the marketing problems would be formidable. You can perhaps persuade the publisher of *Index to Legal Periodicals* to improve the index. You represent enough libraries, probably, so that if you are willing to see the subscription price increased by 25 percent if certain changes are made, you will have input. But this is not a computer project, and I also suggest that it does nothing to make legal periodicals more accessible to the practicing profession.

The ideal service as I see it would be to get perhaps both LEXIS and WESTLAW, which are now going into firms, to add to the libraries available on their terminals as large a body of periodical material as possible, preferably in full text, and then subject that to the boolean word association type of search that LEXIS employs, with or without the additional weight technology employed by West.

There are a couple of points I want to discuss in light of Mr. Harrington's comments. The argument that full text searching of periodicals is desirable because full text searching of cases is desirable seems dubious to me. The lawyer's response to the kinds of documents searched is not quite the same. That is, the value of not having somebody between the reader and the document is not as important in periodical searching as it is in retrieving a court report from LEXIS. There are ways in which the lawyer can avoid reading the full opinion. Most lawyers do not read it on the console, but actually go into a library and pick up a book. Having retrieved a citation rather than the text, a lawyer can use either the synopsis or the headnotes, and can easily limit the number of cases he must actually read.

Periodical articles are not really shorter than case opinions. In fact, I believe that articles are longer on the average than opinions. There is now no convenient way of shortening the search. I don't think you can effectively scan an article and find out whether or not you want to read it. You have no headnotes except for a few journals that abstract. There is no way of deciding whether or not you want to read these documents. The logic that applies to full text searching of case reports does not apply to periodicals. Therefore, there is a valid reason to do something to try to help the reader limit the amount of material he must go through.

There are two possible approaches, and people here do not want to select one or the other. One is an improved traditional index in book form, with possible on-line access developed later. The other approach is to use the computer for some sort of text searching, whether full text or abstract, indexing through the computer either by titles, titles plus abstract, or titles plus abstracts plus full text. I am not ready to make the choice between the two although we seem to agree that we ought to explore the traditional way first.

Even with this three part approach—(1) improve traditional indexing, (2) try to get on-line access to something traditional, non-traditional, or something existing like *Social Science Citation Index*, or (3) propose a *de novo* project to a group of suppliers for bids—we still have to make several decisions. These include (1) How do we select data, i.e., what periodicals do we want? Is there enough interest in foreign and international law and international

business transactions to justify including all English language periodicals? The inclusion of all English language periodicals would bring in things that seem tangential (such as provincial African or Asian journals), but it would also bring in material that would be desirable in international business transactions. (2) What is the definition of periodical? There are a number of newsletters that I would include, although not newsletters consisting largely of case digests. We might create a class which would be subject to selective indexing, such as newsletters and newspapers. (3) Should we index and/or abstract? An effort should be made to persuade periodicals to prepare abstracts; the *Harvard Law Review* does now, as do a number of others. But I doubt whether the response would be substantial enough to make it work.

For purposes of computer searching, I would be interested in exploring a one-sentence extension of title. It seems to me that you could persuade the journal or the authors that there is a new world of retrieval for their literature, and that you are asking for a one sentence subtitle for each article, with as many key words as they can include. Leave out the question of a uniform key list or thesaurus, but try for computer searching of such extended titles. Tell the journals and their authors that we want, within reason, a descriptive subtitle appended to the title which could be searched by key words. That is the compromise that I would try between straight indexing and full paragraph abstracts. I don't know whether the journal editor or the author should do it. Conceivably the journal could take responsibility and tell the author that if he did not append a subtitle to his article, the journal would.

I would like to see someone (perhaps George Grossman) take a year off to sit down and do a subject heading list. The profession is facing major subject heading problems. Perhaps the Library of Congress can be persuaded to undertake a cooperative arrangement with the law library profession to re-do their subject heading list. They are now undertaking a similar project in the art and architecture field, and if they could be persuaded to do it in the legal field, we might get an improved subject heading list which all law libraries could use for monographic literature. If it were done, then it could be distributed to journals as a basis for the subtitles or to add descriptors for indexing purposes. In any case, I feel that we should focus on the question of subject headings in some way.

(4) Who would produce the file itself, decide on its format and distribute it? It's not something that we can work out alone, but must involve the suppliers. We have to produce a general proposal

and perhaps make a selection and set priorities. A hard copy printed index of some kind is essential for our purposes and none of us is prepared to give that up. On the other hand, the computer does offer a search capability which would be much more useful with the extended title arrangement and perhaps the addition of descriptors from our new subject heading list. Perhaps somebody could produce a comprehensive index which libraries or practitioners could order, either complete or in subject segments for the specialist. It may be that microfiche is an in-between possibility, particularly if it is computer produced.

(5) Should this be a separate computer search service or should it be piggy-backed on an existing service? I think it would be more marketable if it were piggy-backed on another system such as LEXIS.

[Here Mr. Cohen discussed the proposal being developed between Harvard and LEXIS to put *Current Annual Legal Bibliography* into the LEXIS data base. He suggests that our proposals be held in abeyance for a year or so to see how the LEXIS-Harvard cooperation works out, so that this experience can contribute to our final recommendations.]

(6) What forms of access do we want? Sometimes we have a title but we don't have the name of the author or of the publication. Suppose we want to make searches for faculty recruitment purposes. Or we may want to make searches of a judge's writings (for example, to prepare a bibliography of Justice Stevens' periodical articles before he was appointed to the Supreme Court). We want access by author, we want access by title, by subject, by parties, and by case names. Even if we weren't including case notes (and I would certainly put them in), we should be able to retrieve material by case name and not rely only on Shepard's or ILP for this purpose. We want access by jurisdiction. That means that you can retrieve everything on the Kansas law of debtor and creditor or what have you.

If the Harvard bibliographic data goes into LEXIS it should be tagged with jurisdictional references, even if the title doesn't indicate jurisdiction. That could be done by an elongated title or by adding a descriptor. It does seem to me that jurisdiction is an important element not now adequately covered by conventional indexes. Chronological access doesn't seem to me to be very difficult. I am talking about chronology of publication. Chronology in content is much harder.

(7) How will the system be financed? Inevitably we have to

determine how much more we would pay to obtain sophisticated access to this sort of information. That may involve deciding what we are willing to give up, because we don't have easily expandable budgets. We are going to have to compare this service with some of the things we are getting now and decide what we can sacrifice in order to pay for it. There seem to be three possibilities: (1) try to get a foundation or association to pay for it, (2) give it to a commercial firm that will in turn put the cost back on us in the form of subscription rates, or (3) try to do it ourselves, a very unlikely choice.

Finally, the question that we began with is who is going to do it? Who is going to Wilson? Who is going to draft the proposal? PTC indicated that they would follow through on some of the preparatory efforts. However, we must all search our own consciences to determine how strongly we feel about this. Is it high enough among our own priorities so that we are willing to put substantial time and effort into it?

J. MYRON JACOBSTEIN, SPEAKER

I understood that my job was to summarize what others have said. After Morris Cohen there is not much to be said, which is perfectly all right with me.

In response to Christine's remarks about the *Social Science Citations Index*, I really do not think that will help us for a number of reasons. First, I think I am responsible for the legal periodical titles now in SSCI. When *Social Science Citation Index* first came out, I looked at the legal periodicals they were then including. It was an unbelievable list. They left out schools like the University of Texas and Rutgers while including some smaller, less prominent schools. As a result I was asked to submit a list of law reviews. I took Cameron Allen's article on law reviews (62 *Law Library Journal* 191 (1969)) and arranged the law reviews he listed in descending order of importance. One has to keep in mind that SSCI is primarily a citation index. They don't use subject headings; any subject search is done merely by searching the words in titles. Finally, SSCI is not interested in expanding, and what they are doing will not solve our problems.

Secondly, we have to keep in mind that law reviews are only a

small part of the universe of legal periodicals. Thus, whatever cost figures you come up with should be doubled. Every time I count the number of law reviews published, it goes up the next day. As we all know it is no longer respectable for a law school to publish just one review. Many have at least two, and Harvard has four!

I seriously doubt whether every year, we could convince the student editors of some 135 law reviews to do their own abstracts. Beyond that, what about bar journals and selected articles in non-law periodicals? I have no concept of how this is going to be controlled or forced if a journal editor refuses to do it. In my opinion this idea is not a workable one and, incidentally, it is not an original idea with the PTC. Library literature is full of ideas and articles going back more than twenty years.

Ever since we put my daughter, now 24 years old, in a cooperative nursery school when she was three, I have hated anything that has to do with volunteers. I remember vividly this experience. When we first went to join, every parent was to spend time doing something to help. But my wife and I and one other couple ended up doing all the work. That has been my experience with every other organization, including AALL and AALS, that tried to get something done on a volunteer basis.

To respond to Mr. Harrington, I remember attending the early meetings of the ABA committee on electronic data retrieval. I went to two in a row, then missed one. When I went back the fourth year, I could have sworn I was back at the first meeting. I'm sure Mr. Harrington will say that they kept repeating the same things, and at least LEXIS had enough sense to go and do something. But what impressed me about those meetings was that many of the people who came were representatives of IBM and other companies. Each one was listening very hard for ideas that would benefit his own company. Mr. Harrington is a very persuasive orator, and if I ever need a lawyer, sir, I would be delighted to have you represent me. But I'm afraid that you are here, consciously or not, as an advocate of a particular system. Mr. Harrington was calling many of us here naive in our understanding of computers. I can't speak for the others, but I'll frankly admit that when it comes to the technology of computers, I am very naive. However, I think that Mr. Harrington is naive in his understanding of how lawyers use legal materials. I just cannot believe that he really thinks that indexing of periodical information is useless unless lawyers can put their hands on the publications in their own offices. Many of us here have been dealing with practicing lawyers for years, whether at a law school or

bar library. A good part of the staff time is spent supplying lawyers with information that they need, mostly in law reviews. A lawyer who somehow finds out there is an article that will help him probably has a library available which he will use. The reason most lawyers don't use law reviews or legal periodical literature as much as they should is that they do not know that they exist. Many large firms in California do not have anything but the California Statutes and Reports in their offices. That does not necessarily mean they never use any other material; they rely heavily on their county law libraries.

Mr. Harrington, and LEXIS in general, has been pushing the concept that the ideal situation is for a lawyer to get together with the information without any editor between them. Again I have to come back to my experience. Lawyers who come into the library can't even use a simple index. I don't believe that the average lawyer can sit down at a terminal and really enter into the kind of dialogue required to do effective retrieval. I suppose there is no way to prove that. Any user of information, whether it be a lawyer, scientist, or businessman, needs someone to help him use the tremendous amount of information society is producing. One way this is done is for some agency to take information and reassemble it, whether by indexing, or abstracting, or other types of information handling. We have had long discussions about whether there is such a thing as an index or whether there is such a thing as good indexing. Again, it is not a question of whether one should index. The only question is the format in which we should offer it to improve the method of access. I think Mr. Harrington's contention that you should not use a computer for indexing unless you have a large data base is not absolutely correct. There are data bases in other fields much smaller than that of legal periodicals. Lockheed, for example, maintains several data bases which consist of a smaller number of titles than that with which we are dealing.

I'd like to try to get a little more focus now on what we can leave here with. Our purpose is to find out what most law libraries want, not because we want it, but because we can serve the legal profession better. One of the problems, of course, is that there is not a decent index of legal periodical literature. We are talking about an ideal system, and I would like to see such a system that fully indexes legal periodical literature. We should look at the content of the article and what it says, and not worry too much about whether it is published in a legal or non-legal journal. We want frequent update service. With periodical literature we do not have the same

need for speed that we have when looking for a case or statute, but we do want frequent updating and cumulations. We would not now be satisfied even if the H. W. Wilson Co. agreed to all our suggestions and criticisms and, starting next month, produced an almost perfect printed ILP, with more subject headings and scope notes, more "see" references and so forth. We would still need the ability to have retrospective searching by author, by title, and by jurisdiction. I would like to see us design what we want, and get some idea of what it's going to cost and who is willing to do it. Then we should keep refining it until we get something that will sell. Making available a small portion of the legal periodical literature is fine, but it doesn't solve the total problem of providing the profession with really comprehensive, economical and easily retrievable information on legal periodical literature. I feel very encouraged by the PTC's willingness to carry on with this. If they are serious, they will have to see that committees are formed and leadership divided and structured. I think that if they do, those in this room will be very happy to work with them.

Finally, we do have a political problem. Why isn't the American Association of Law Libraries, the Association of American Law Schools, or the Bar Foundation doing this? There is a political problem, at least with AALL, because of its long relationship with the H. W. Wilson Company. Therefore, the solution may have to come from an outside group.

Law Center Report

The slightly delayed publication of this issue of IDEA has had the fortuitous result of enabling this report to include rather significant events, some but recently consummated.

The Law Center itself, the PTC, and the Academy of Applied Science are now fully moved to permanent quarters in the magnificent Washington and White Streets building complex in Concord, New Hampshire. This has served to bring the law students, faculty and researchers into closer consort and, more particularly, into more intimate contact with the legal, inventive, business and general communities involved in Center activities.

For the innovative and business communities, successful conferences on Arbitration of Patent and Other Technological Disputes and on Overcoming Legal Barriers to the Utilization of Solar Energy have been conducted; jointly with MIT and the Academy in the former case, and with GOVERNMENT R&D REPORT, in the latter. Joint activities have been developing with segments of the New Hampshire Bar and Bench, including participation in our extensive trial advocacy program, advanced legal education for trial lawyers, and preparation of the annual survey of New Hampshire Law.

Our programs of "legal aid" through our Innovation Clinic and Small Business Institute, for the benefit of inventors, small innovating companies, and other creators of intellectual property, have proven effective and of growing significance. Similarly, the Environmental Law Research Service offered by our advanced students is being increasingly used by legal, governmental and business groups.

International student exchanges in programs currently dealing with competition law, technology transfer, trademarks and patents, have taken place with the University of Strasbourg Law School, CEIPI, and the Max Planck Institute in Munich (see IDEA, Vol. 18, No. 2, p. 1); and expanded joint research into these areas is in planning.

Our association with Carnegie Mellon and its Center for Entrepreneurial Development has become close, intimate and mutu-

ally fruitful, including special faculty lecturing interchanges, and interdisciplinary engineer-entrepreneur-lawyer student and faculty projects, ranging from patent problems to product liability and new venture activities.

With MIT, we are planning a vital fall conference to study FDA regulation of biomedical instrumentation. And with the U.S. Army Natick Laboratories, we are studying ways to gain acceptance of their technology for the radiation preservation of beef and techniques for introducing the same into the commercial market.

Joint business school-law school interchanges have been commenced with the Tuck School of Dartmouth College with a very successful two-day mock public utility hearing.

Our PTC has started meeting with local corporate and other supporters in different geographical areas (Pittsburgh and New York City having recently been covered by highly informative luncheons) in order to evolve research projects matched to actual needs of our membership, and to explore ways of more effectively servicing those needs and financing those programs.

This fall we are planning, jointly with our colleagues at the University of Strasbourg and the European Economic Community itself, the co-sponsorship at the Law Center of a first-of-its-kind direct interchange between the presidents of a cross-section of American industry and the new key officials of the EEC charged with the administration of business and related legal interfaces in the common market. The objective is to invoke face-to-face discussion of problem areas and to provide inputs that may better accommodate our industrial needs, consistent with meeting common market administrative objectives. One of the subjects in these discussions will be the significance of the coming EEC patent. What route should American industry take to try to protect its proprietary rights; the National patents? The PCT route? The new EEC patent?

To help answer these questions, specialized short courses (in English) are being offered by CEIPI of the University of Strasbourg Law School for two weeks in September and one week in December directed to the European Economic Patent. Details will be announced in the Spring issue of IDEA.

Parties interested in attending, should either contact our PTC Office or CEIPI, directly at Strasbourg.

Robert H. Rines
President

NOTES ON PTC PROGRESS

In October, 1976, the PTC and the Franklin Pierce Law Center began their first foreign exchange program with the Center for International Studies of Industrial Property (CEIPI) of the University of Strasbourg Law School in France. Paul A. Genovese and David K. Pinsonneault were selected to be the first participants in what is expected to be an annual course in licensing technology transfer.

In 1975, the then French Minister of Patents, François Savignon, visited the PTC with hopes of developing joint programs regarding the study of industrial property law in Europe and the United States. During the summer of 1976, President Rines visited Savignon at CEIPI, where he now holds a professorial position, and met CEIPI's Director, J. J. Burst. Concrete plans for the formulation of an exchange program between the two schools were developed at this meeting.

As an explanatory note, CEIPI does not have an educational counterpart in the United States. The Center was created to be the training center in the field of intellectual and industrial property law for lawyers, judges and businessmen. Consequently its "students" are drawn not only from undergraduate ranks but also from law firms, high technology companies and other law schools. The sessions were typical in this respect as the program will be offered annually to licensing executives, patent agents and patent lawyers..

Entitled "Licensing Technology Transfer," the course provided a comprehensive analysis of contemporary licensing practices and negotiations in the European Community. This approach also included treatments of business relationships between Europe, the U.S. and the Third World or "developing" nations. The format, which was designed to take the maximum advantage of each participant's expertise, consisted of morning lectures by distinguished speakers and afternoon workshops. The workshops were critical to the program's success. Problems based on the substance of the morning's lecture had to be analyzed by the participants who were assigned to one of three groups. Each group was responsible for a draft set of solutions or recommendations which were presented orally before the entire "class" at day's end. This was a lengthy and laborious process which produced several worthwhile learning experiences.

The first week of the course served as an overview of licensing technology transfer and set the pace for the final two weeks. Morning lectures covered such basics as the purpose and methods of technology transfer, the economic and political value of world-wide technology transfer, licensing-in, licensing-out, the economic significance of technology transfer to a corporation and licensing negotiations.

The last two weeks were devoted to clause-by-clause studies of the "ideal" technology transfer contract. The second week included discussions about the role of patents and know-how in licensing agreements, while there was a careful treatment of supply obligation, guaranty, secrecy, duration, termination and remuneration clauses. The final week included a critical analysis of the development of U.S. and European antitrust law as that relates to licensing; restrictive legislative tendencies relating to patents and technology transfer in "developing" nations (using a Latin American example); and a final case study/workshop that sought to tie in concepts developed during the entire session.

Reportedly, the first week was sometimes whimsical, and more philosophical than the succeeding two. It appeared as though technology transfer was perceived as an end in itself, without regard to whether there was a genuine need or desire for world-wide industrialization. However, discussions about the rapidly developing power of Third World or "Group of 77" nations with respect to their ability to compel contractual clauses on their own terms was startling and brought out the serious nature of the problems. It is worthy to note that the European notion of a mystical and powerful U.S. antitrust law continues to be enhanced. A number of the licensing professionals present at the sessions were at one time or another induced into less favorable terms when their U.S. counterpart claimed that to do otherwise would violate antitrust laws.

The rest of the sessions provided a no-nonsense approach to contract writing and negotiation. The conflicting laws on patents and competition within the European Economic Community were explained and their application to licensing contracts explored.

The Franklin Pierce Law Center and PTC Research Foundation would like to take this opportunity to thank the French hosts and instructors for their hospitality they showed to our students and dedicated efforts to provide a valuable experience. It is hoped that programs of this type will continue in the future in order to provide a greater understanding of problems in intellectual and industrial property law on both sides of the Atlantic.

COMMENTS

Comment on the Inventor Profile

"The Inventor Profile" in the Summer 1976 issue is very kind in awarding some firsts to our company. This is indeed welcome news in these quarters.

As a matter of arithmetic, isn't there a slipped decimal point in the caption to the third column of Tables I and II? The ratio tabulated is "Patents/\$100M Sales". For our company, at least, the numerical values in the tables come out on the nose for patents per dollars 1000M sales.

As separate comment, and in a fit of exactitude, another inconsequential point might be made. The Profile credits us with 541 and 461 patents in 1968 and 1973 respectively. The counts on our books are 490 and 404. The figures come out as published if one assumes that the counts for Dow Corning Corporation have been added to ours in arriving at the totals in IDEA. While our company is one of its proud owners, Dow Corning is an entirely separate enterprise which has earned its own place in Fortune's 500 and in the patent world. Fortunately for our pride, even if the tabulated ratios are recalculated, our position in the ranking is unchanged.

Having unburdened my conscience, I now return to the accustomed state of a long-time and enthusiastic admirer of IDEA.

W. M. Yates
General Patent Counsel
The Dow Chemical Company
Midland, Michigan

Mr. Yates' observations are both correct. A decimal point was indeed slipped in the Tables. In several cases, wholly owned subsidiaries were combined with parent firms because of the common ownership. The Dow-Dow Corning combination, however, was inappropriate. We apologize for the errors. (Ed.)

Comment on National Science Foundation Research

In August 1973, the National Science Foundation established a National R&D Assessment Program to provide research on and analysis of the contribution of science and technology to our society. Between 1972 and 1976, the Program produced 37 staff papers and commissioned 73 outside projects and reports.

Because many of their findings might be of interest to our members, they are summarized below. The report of the Program, *Technological Innovation and Federal Government Policy*, NSF 76-9 (1976), is available from the agency.

Government Investment in Innovation

- There is persuasive empirical evidence that R&D and technological innovation have had a significant positive effect on the growth of productivity, and economists have argued that the U.S. is probably underinvesting in civilian sector R&D from the point of view of economic growth and productivity.
- Few firms keep accounting records in such a way that they could easily respond to a mailed questionnaire about their expenditures for "innovation." Thus, it is difficult to measure the amount and type (rate and direction) of innovation in private firms. Information about firms' expenditures for innovation can, however, sometimes be obtained through intensive field work.
- An analysis of 17 industrial innovations revealed great variability in the rates of return firms obtained from innovation, with a median rate of return (before taxes) of about 25 percent. Total rates of return to society were twice as high as the private rates of return to the firm itself. A significant proportion of innovations produced very low private returns but high returns to society.

Government Regulation of Business

- No consensus exists as to whether regulation has, on the whole, been beneficial or detrimental to the overall rate and direction of innovation in industries subject to regulation, although some authors have concluded that economic regulation is likely to have a detrimental effect. Although we may not necessarily expect

general conclusions to emerge on the effects of government regulation on technological innovation, limited conclusions may be possible at lower levels of aggregation, such as within industries, areas of technology, or types of regulation. Examples of regulations which have inhibited and encouraged technology are available.

- The importance of patent rights for a firm's innovative activity varies significantly from industry to industry. The variance in the importance of patents may be in part due to the existence of trade secrecy laws, which provide another means of protecting process inventions.
- In many industries, small to medium sized firms conduct research more efficiently than large firms. Increases in firm size, beyond some intermediate size, do not appear to be especially conducive to increase R&D intensity. Medium- to large-sized firms, however, may offer economies of scale in later phases of innovations and are better able to exploit or develop R&D findings.

The Transfer and Use of Technology

- The types of individuals and groups involved in technological innovation in State and local governments vary considerably across functional or service areas; and cities and States differ widely in their needs and in conditions providing stimuli to innovation. Hence, Federal efforts focusing on helping cities and States make decisions on whether, and how, to utilize new technology in the solution of problems may be more effective than stimulating cities and States to adopt a given research product or technology.
- There is no clear-cut relation between foreign direct investment and "R&D intensiveness" of industries; in contrast, international licensing tends to vary directly with the "R&D intensiveness" of industries. One factor which tends to inhibit the amount of foreign direct investment and licensing is that benefits to both selling and recipient firms are limited by the substantial costs often entailed in technology transfer. Available evidence suggests that foreign direct investment in general makes a small contribution to international diffusion of technology.
- In the short run, technological change has altered the skill requirements in specific jobs and industries, but often this structural unemployment has been accompanied by employment op-

portunities in other industries and occupations. Privately developed programs have handled worker adjustment problems quite well in a majority of cases, particularly those occurring in large, unionized firms. In contrast, employees of small and/or nonunion establishments and population groups which are more severely or more frequently affected by change rely more on public mechanisms, such as publicly provided income support and retraining.

Editor

Arbitration Of Patent and Other Technological Disputes: An Introduction

THOMAS G. FIELD, JR.*

Before getting to the substance of the papers which follow, an acknowledgment is in order: all of the people associated with the conference played unusually strong roles in structuring its overall design and suggesting topics and/or speakers. While it is difficult to single out the efforts of a particular individual, those of Harry Goldsmith were literally a *sine qua non*.

It was through Mr. Goldsmith that we were alerted to the need for a conference on the subject, and it was he who provided the essential overview. Because of his continuing and close involvement, I was free to sit around thinking up questions for which he could either provide answers or, alternatively, suggest others who could help in getting them. This, of course, is not an attempt to avoid the responsibility for gaps or overlaps in the papers which is that of the program chairman.

However, to the extent that there may be problems with the flow of the conference proceedings, they are more apt to be related to the breadth of subject matter addressed than to the more typical pitfalls noted above. For that reason, there is need for somewhat more of an introduction than is usually necessary, and I will attempt here to pull

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in a net which was rather broadly cast. Also, because the questions were addressed at the conference in an order different from that in which they arose, it is useful to discuss the rationale for their sequence.

My approach was essentially that of a student of patent law with some background in antitrust and administrative procedure and a modest appreciation for the difficulties in dealing with highly technical subject matter in a judicial forum. Also, I knew just enough about arbitration to be aware that it has frequently been used by private parties in circumstances similar to those in which the administrative process has been used publicly and to be aware that the judiciary has traditionally been somewhat chary of such encroachments on its terrain—especially where issues of strong public policy were concerned.

I was, therefore, not surprised to learn that, (1) given the technical complexities of patent litigation, that attempts had been made to settle such disputes through arbitration; and (2) aside from the rather mundane problems of *e.g.*, royalty computations, such attempts had not been warmly received by either the courts or the Department of Justice. Nevertheless, it seemed that the public policy favoring the resolution of, especially, antitrust related issues in patent disputes in an *open* forum ought to be balanced against the public policy in favor of the need for expedited resolution of problems involving highly technical subject matter. Further, insofar as the latter policy issue seemed to have had little or no airing in this context, it was put at the beginning of the conference.

This was no more than an attempt to reinstate a balance that seems to have been lost (if it was ever created), and, as the papers from the first morning session reveal, means for the expedited (and probably non-judicial) treatment of technical factual issues is a topic which, in itself, is worth considerable attention. Thus, we were fortunate to have Dr. Arthur Kantrowitz (sometimes referred to as the “Father of the Science Court”) speak at the luncheon. Readers will find his talk to provide ample evidence of the frustration of a scientist with traditional fora for resolving technical controversy—albeit at a much broader level of concern than apt to be presented in patent cases. Nevertheless, it provided a valuable finale to the first session of the conference.

Moving, then to the first afternoon session, its purpose was to inject a note of cold reality into the putative grand scheme. It seemed worthwhile, before pursuing public policies affecting the potential arbitrability of patent disputes, to consider whether the

practical benefits of arbitration vis-a-vis the judicial process, would seem to justify what would probably be an uphill struggle in Congress. With an overview presentation of the law in the area serving as an introduction, papers presented at that session address the issue. That arbitration is not a panacea seems clearly to emerge—and it remains to be seen whether the patent bar will consider its potential benefits worth the effort that may be necessary to achieve them.

Somewhat out of order, the last two presentations of the second morning session provide additional insight into the feelings of the patent bar about the need for alternatives to litigation and the kinds of factors that may influence their attitude toward non-judicial fora. Another classic role for arbitration (in addition to its use in specialized kinds of controversies) is in the transnational setting, and it is interesting to note that, in just such a setting, one group of attorneys opted for yet another alternative to litigation: conciliation. While conciliation is not apt to have much appeal in resolving domestic patent disputes, the paper detailing the experiences of PIPA, nevertheless, tends to put the whole inquiry into better focus.

The other papers presented in the second morning session were inspired by some familiarity with administrative process. Viewing arbitration broadly from such a perspective, it seemed remarkable that, while courts have been increasingly insistent on a full record to support a clear, well-reasoned opinion before administrative decisions will be upheld, arbitration awards consistently set forth no more than the name of the winning party and the amount of the award, if any. Furthermore, the AAA encourages this format: obviously if reasons for a verdict are not set forth, they are difficult to criticize on review or in a collateral attack. The remarkable thing is that the courts seem to go along with such an approach.

While the difference in treatment is legitimate in most contexts, *e.g.*, parties in arbitration are there voluntarily *and* have a role in choosing the adjudicator (neither of which is the case in administrative proceedings), it seemed far less supportable in the kind of situation of ultimate concern at the conference. More important, it appeared likely that patent arbitration awards would fare better if accompanied with findings, reasons and opinions—and, certainly, if subject to the type of review common in administrative proceedings.

The first two papers presented at the second morning session dealt with such issues and provide valuable insights into the reviewability of arbitration awards generally. It is also interesting to note that when the prospect of expanded review was recently discussed at an American Patent Law Association Meeting (January-

February, 1977 APLA BULLETIN, at pp. 24-25), it was not warmly received. While I was not present, I suspect that at least one of the concerns was the lack of finality which might follow. Unfortunately, there is no way to tell what would happen until it is tried. The next best evidence is probably presented in regard to administrative review. While I am sure that the percentage of administrative matters, in fact, taken to review is quite small, an attempt to obtain hard data from the U.S. Administrative Conference was unsuccessful.

In any event, the papers presented at the last session of the conference seem to well document a presently intractable hostility toward the idea of any sort of patent arbitrability on the part of some members of the bar (except, perhaps, for the disposition of royalty disputes). Such hostility—with or without the possibilities of awards with detailed written support and their expanded court review—coupled with spotty interest on the part of the bar, makes it unlikely that patent validity and infringement will be arbitrable in the near future. It goes without saying that almost inevitable antitrust-related defenses and counterclaims will be afforded such treatment far less readily.

At a minimum, the conference served a useful purpose in providing a forum for the airing of an assortment of interrelated issues, and the following papers will serve as a valuable basis for further study of the broad problems raised. In spite of the fact that at least a significant segment of the patent bar has reservations about the economic utility of arbitration, it is a flexible tool for the resolution of disputes. With such flexibility, it is difficult to imagine that a complex and highly technical controversy cannot be more expeditiously resolved when an adjudicator can be chosen who is closely acquainted with the technical subject matter and the parties are not confronted by a lengthy docket. Thus, even if the parties are subject to the same procedural requirements that would be normally encountered in civil litigation and subject to the same scope of review, everyone stands to gain—especially the individuals who are denied speedy access to the courts when large amounts of time must be spent educating the triers of fact in a highly technical area *and* those who are required to pay neither counsel nor an array of experts necessary to accomplish that end.

In short, given the advantages inherent in expedited resolution of technical controversy, it is hard to believe that judicial ingenuity cannot devise a method for accomplishing that purpose—and, one which does minimum damage to the notion that certain kinds of

disputes ought to be resolved in an open forum. If the answer is found to contain the word, "arbitration", many of its antecedents, I am sure, will be found in the following pages, and I hope that readers will share my assessment.

Resolving Highly Technical Disputes

A Survey Of Alternatives

RONALD A. MAY*

It actually happened in 1897. State Representative T. I. Record introduced House Bill No. 246 in the Indiana State Legislature to establish the value of pi. As a matter of fact, the bill established three different values of pi. With unusual legislative sensibility, the bill was referred to the Committee on Swamp Lands. That Committee transferred it to the Committee on Education which recommended that the bill be passed. It did pass the Indiana House of Representatives. When it reached the Senate, it was referred to the Committee on Temperance. It was defeated eventually on a second reading. Representative Record was uniquely qualified to draft legislation of this nature, since he was able to trisect angles, duplicate cubes and square circles—techniques of genius he failed to share with posterity.¹

When I read this little story some years ago I found it amusing. But I had an uncomfortable sense of *déjà vu* as in the past year I followed the course of a bill in the U. S. Congress called S. 2515,

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¹ Greenblatt, "The 'Legal' Value of π , and Some Related Mathematical Anomalies," 53 *American Scientist* 427A (Dec. 1965). Reviewed by Reed C. Lawlor in 1965 *M.U.L.L.* 166.

which was passed and created a permanent President's Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The first version of this Bill sponsored by Senator Kennedy called for the creation of a permanent Commission to, among other things, "identify the basic ethical principles which should underlie the conduct of biomedical and behavioral research." The Commission was, in addition, to investigate and study the use of psychosurgery.

A more recent version eliminated psychosurgery from the Commission's purview, but, in keeping with the day's fashions, required an investigation and study of recombinant DNA molecules.

We are here to discuss Highly Technical Factual Disputes. The foregoing is simply to illustrate that such disputes are presently being resolved in a wide variety of settings beyond the judicial and administrative settings with which we are familiar. During the past year the Cambridge, Massachusetts, City Council heard evidence and made a decision on the appropriateness and dangers of research in recombinant DNA. Very recently the New York Attorney General heard testimony on the subject. All this is consistent with Senator Kennedy's belief that there should be more public participation in scientific decision making.

I am withstanding the temptation to make this Survey of Alternatives a longitudinal one. Everyone agrees there is a need for understanding the interrelationship between the two cultures of law and science. There is a fairly vast literature on this subject and some good bibliographies. Unfortunately, too much of this literature is anecdotal. A great deal is shamelessly autobiographical and markedly redundant. Although this literature is reasonably accessible, it seems to be largely ignored by those who add to it.

Consequently, I am going to ask you to consider briefly several methodologies which offer or at least seem to offer promise in resolving highly technical factual disputes. And in selecting those methodologies, I have deliberately avoided the obvious and well known techniques presently available in our legal system, such as referring particular disputes to special masters, the court's appointment of its own expert witness or witnesses and separation of the trials of liability issues from damage issues.

First I would like you to consider the now rather famous systems analysis of Allen D. Allen published in *IEEE Transactions on Systems, Man and Cybernetics* in 1972.² Allen first posited a generalized fact-

² Vol. SMC-2, No. 4, Sept. 1972 at 548.

finding system. It is, of course, characterized by an event which leads to a decision. The event is directly observed. Fed into the system are certain negotiable assumptions and non-negotiable assumptions. There may be redundant observation of the event and indirect observation. Before the decision is arrived at, there is a consistency requirement, a trivia filter and a bias filter.

He then attempts to place scientific and judicial fact-finding systems within the general framework. In the scientific system, the direct observation of the event is the experiment, while in the judicial system it is the testimony of witnesses who observed the event. The negotiable and non-negotiable assumptions are filled rather nicely in the judicial system by conclusive presumptions and rebuttable presumptions. In the scientific system conclusive presumptions give way to "axioms" and rebuttable presumptions to the "theoretical status quo." Redundant observation consists of corroboratory testimony in the judicial system and repeat experiments in the scientific system. Indirect observation of the event constitutes hearsay in the legal system and literature reference in the scientific.

I find much to criticize about this analysis, but I still think it is important and seminal, because it avoids the usual format of "Lawyers do X, and Scientists do Y." Placing the activities of each in the framework of a generalized fact-finding system is original and useful.

Still another conceptual framework has been proposed by Michael S. Baram, who at the time was on the MIT faculty and is now with the Franklin Pierce Law Center. A few years ago, in an article in *Science*,³ he attempted to introduce some order into that fascinating but fuzzy world of Technology Assessment. I will not attempt to summarize his article in detail. It was reprinted in the American Bar Association's *Jurimetrics Journal*. He points out that certain impacts and amenities of technology are, while unmeasurable, nevertheless real and integral to decision making. He then created a simple model for relating a specific technological development to resources, characterized as inputs, and effects, characterized as outputs. Perhaps the most important aspect of Baram's model is that he demonstrates the need to shift from what he calls "an endless series of adversarial processes . . . that benefits only lawyers" to a direct interconnection between the parties interested in the effect of a technological development, including the general public. He sug-

³ "Technology Assessment and Social Control," 4 May 1973 at 465. Reprinted in 14 *Jurimetrics Journal* 79 (1973).

gests hopefully that technology itself may provide some assistance in establishing that connection.

As if to fulfil Baram's prophecy there appeared in *Science* a few weeks ago an article entitled "Science Values and Human Judgment" by Kenneth R. Hammond and Leonard Adelman,⁴ which I hope will achieve wide currency. These authors point out that efforts to integrate scientific information and social values in the formation of public policy are confused and defeated by the widespread use of ascientific methods. I recommend their remarks about the proposed Science Court to anyone who is interested in that also fashionable subject. But, while criticizing the adversary method, they also examine and discard what they call the "person-oriented" approach to the resolution of highly technical disputes. This might be characterized as a sort of argument scientists make in favor of allowing intelligent, well-informed experts who are persons of good will and who have nothing to gain from the outcome to resolve highly technical factual disputes.

The authors point out that the key element in the process of integrating social values and scientific facts is human judgment. Although recognizing that human judgment is not a directly observable cognitive activity, the authors deny that it is beyond scientific analysis.

They go ahead with the description of a method used to resolve a dispute about police hand gun ammunition in Denver. Everyone is aware of the national controversy about the use of hollow pointed bullets by police officers. Such bullets, flattening on impact, decrease penetration and increase stopping effectiveness. They also create more injury to the presumably criminal victim. It's not hard to guess how the sides line up on this issue.

The method used to resolve this in Denver was initially to externalize social value judgment. A wide variety of participants, including city officials, police officers, representatives of community organizations and the general public were asked to make judgments concerning the relative desirability of hypothetical bullets in terms of their stopping effectiveness, severity of injury and threat to bystanders. In doing so, the participants used an interactive computer terminal which permitted people to perceive the relative importance they attributed to each of the three characteristics of bullets and to revise that judgment if they chose to do so.

The second phase of the experiment was to externalize the scien-

⁴ 22 October 1976.

tific judgments. A panel of experts, including experts on firearms, ballistics and bullet wounds studied effects of eighty different types of ammunition and concluded that there was not a perfect linear relationship between stopping effectiveness and injury.

The final phase was the integration of the social values and the scientific information, resulting in the decision to use the particular bullet which best represented the expressed social values of the community. That bullet was accepted by all parties concerned and is now in use. The procedure followed was quick (the project was completed in six weeks) and inexpensive (a cost of less than \$6,000).

Finally, in this brief survey of dispute resolutions, I would like to turn to what may seem to be an unrelated topic, Medical Diagnosis. It is paradoxical, in this connection, to go so far back, but I would like to refer to a 1959 article entitled "Reasoning Foundations of Medical Diagnosis."⁵ The authors of that article, Robert S. Ledley and Lee B. Lusted, foreseeing the imminent use of computers as an aid to medical diagnostic processes, felt it necessary to analyze the reasoning process itself by which doctors made diagnoses. Using a highly simplified model, they first analyzed the logical concepts present in relating medical knowledge, the patient's signs and symptoms and the diagnosis itself. In doing so, they used the conventional notations of propositional calculus in symbolic logic.

They then proceeded to probabilistic concepts, recognizing that two valued logical statements are rare in medicine. They conclude with an application of game theory to establish expected utility values associated with particular treatment strategies.

The reason I turn to this apparently unrelated analysis is that I think it can be related to dispute resolution. There is again a large and exciting body of literature on symbolic logic as a tool for lawyers. As a matter of fact the ABA's *Jurimetrics Journal* was originally entitled *Modern Uses of Logic in Law* or *M.U.L.L.* Most of its use, however, has been in connection with identifying ambiguities in the law, simplifying statements of the law and preparing the law for computerized research by lawyers.

I see an interesting parallel, however, which has not been explored in the literature, between the analysis of Drs. Ledley and Lusted and the very question which we are considering today. As I have already indicated, they first used symbolic logic to associate medical knowledge with a patient's signs and symptoms to obtain a diagnosis. We associate the given body of law with certain facts

⁵ *Science*, 3 July 1959.

(some of which must be expressed in probabilistic terms) to resolve an issue or reach a verdict. The diagnosis leads to treatment, on the one hand, and the verdict leads to a judgment on the other.

These four models are not intended to be exhaustive. Others exist and could have been chosen for consideration. Likewise, the order in which they were presented does not reflect any preference on my part. In a certain sense, they proceed from the simplest to the most complex, but they also relate to quite different institutional settings.

The first model refers to the area of private litigation and takes for granted the decision making process itself. The last considers *only* that decision making process and is not related to any particular institutional setting.

The next two models refer to public law decision making on the administrative or legislative level. Baram considers the process in the abstract, and the Denver group relates it to one single social issue.

Any institution for resolving legal or social issues must be aware of its public credibility. Any institution, whether it be a jury, a city council or a Science Court, which relies solely on the testimony of partisan, emotional witnesses to resolve disputes with a high technology content will ultimately lose that credibility.

I would like to emulate that inspiration of my youth, S. J. Perelman, who said:

"I guess I'm just an old mad scientist at the bottom. Give me an underground laboratory, half a dozen atom-smashers, and a beautiful girl in a diaphanous veil waiting to be turned into a chimpanzee, and I care not who writes the nation's laws."

I *do* care who writes the nation's laws and who interprets and administers them. And I'm concerned about the way in which science and scientific values are used and abused in the legal system. The *New York Times* noted recently, in connection with the American sweep of Nobel Prizes, that there was concern for the future that American leadership in science might be lost. One reason for this was what the *Times* perceived as "an ever-increasing spirit of anti-intellectualism threatening the entire American Scientific enterprise." Both cultures must fight this ugly spirit. There are some rational, useful techniques for winning this good fight. And I hope that as we consider that splendid tool, Arbitration, and those important issues presented in patent disputes, we keep in mind these larger issues.

Resolving Highly Technical Factual Disputes: Judicial Perspectives†

DONALD R. MOORE*

Some years ago, when I was a trial attorney for the Federal Trade Commission, I was co-counsel in a case involving the oil industry. Although the thrust of the case was economic, involving the competitive effects of a merger, it was necessary to lay a careful foundation regarding technological aspects of the industry. In a preliminary conference between counsel for the parties, our economic advisor, a man who had expertise in the oil industry but not in legal procedure, startled the defense lawyers by inquiring, "Who is going to educate the trial examiner?" ("Trial examiner" was then the title for administrative law judges.) It became necessary, of course, to reassure suspicious defense counsel that the examiner's education would be accomplished on the public record, without any private tutoring.

The incident is relevant to today's discussion. For the purpose of "resolving highly technical factual disputes," as the program phrases it, should the triers of fact be already educated in the subject matter of the dispute, or should they get their education in the course of trial? In other words, is it necessary or desirable that the judge be an

† Part of a symposium on Arbitration of Patent and Other Technological Disputes, sponsored by the PTC Research Foundation and others, Cambridge, Mass., November 29 & 30, 1976.

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expert, with specialized education and experience? If so, is arbitration the only feasible way to get such an expert as the finder of fact?

From the program, and from preliminary discussions with Tom Field, it appears that I am expected to offer some "judicial perspectives" on those questions, without delving too deeply into subsidiary and related subjects that will be covered by speakers with some claim to expertise in those particular subjects.

As one with no expertise in patent law or in any technical subject (other than law), and with only limited experience in trying technical factual disputes, I wonder if I am here primarily as an evidentiary exhibit, in support of one viewpoint. What inference can you draw from the fact that a speaker lacking such expertise is nevertheless called on to deal with such questions as those posed a moment ago?

Seriously though, there is something to be said for considering a question from the vantage point of ignorance. At any rate, there is where I begin.

Thus, I don't pretend to have engaged in any exhaustive research. However, in scanning the legal literature, I was struck by the relative scarcity of published complaints that judges could not satisfactorily handle technological disputes. True enough, there have been comments from time to time questioning the wisdom of a system whereby decisions on technical matters are made by juries or by judges who lack any expertise in the particular field; and, more particularly, there have been repeated pleas for specialized judges in patent cases.

Three-quarters of a century ago, a young Learned Hand explored the anomaly of asking a jury of laymen to resolve a dispute between experts on a subject about which they know nothing other than what the experts have told them (Hand, *Historical and Practical Considerations Regarding Expert Testimony*).¹ Ten years later, sitting in a patent case that involved complicated chemical questions, Judge Hand referred to "the extraordinary condition of the law which makes it possible for a man without any knowledge of even the rudiments of chemistry to pass upon such questions" (*Parke-Davis & Co., v. H.K. Mulford Co.*)² He called for technically trained judges or at least some "unpartisan and authoritative scientific assistance." Undoubtedly, there have also been similar complaints of more recent vintage.

However anomalous or extraordinary may be the situations de-

¹ 15 Harv. L. Rev. 40 (1901).

² 189 F. 95, 115 (S.D.N.Y. 1911).

plored by Judge Hand, the fact remains that judges, lay juries, and non-expert administrative agencies have been resolving highly technical factual disputes for a long time, and the Republic, the business community, and the scientific community have all survived nevertheless.

Since my experience has been in the field of administrative law, perhaps I should say a further word about the administrative agencies. As far as expertise is concerned, they present a mixed picture. However, it is fair to say that administrative law judges, as well as commissioners and other agency members, regularly handle complex technical matters in which they lack, for the most part, any substantial expertise. I say this despite the knowledge that many of the major regulatory agencies require that applicants for the position of administrative law judge have specialized experience in the particular subject matter of the employing agency.

Moreover, the "expertise" regularly attributed by the courts to the commissioners of administrative agencies is often non-existent. The expertise of an administrative agency really resides in its staff more than its commissioners. This being so, there are actually advantages, from a public policy standpoint, in the periodic infusion of a non-expert viewpoint by one or more commissioners. But that is a subject for another time. . . .

So much for the realities of decision-making in technical areas by courts and administrative agencies. The fact, however, that the anomaly deplored by Judge Hand persists does not mean that we should not be receptive to a possible change for the better. Let us look for a moment at what arbitration has to offer. But, first, a caveat or two. Here again, I enjoy the vantage point of relative ignorance as far as personal experience is concerned. In any event, you can be assured that to the extent I question any aspect of arbitration, it is not due to prejudice—and certainly not because arbitration has deprived me, or threatened to deprive me, of any lucrative jurisdiction. (I say this because it appears that some of the early antipathy of the English judges toward arbitration was frankly resisted on the impairment of judicial compensation.) Beyond that, of course, I am not unmindful of the ringing endorsement of arbitration as a dispute-solving mechanism by Chief Justice Burger and other legal luminaries.

Among the advantages attributed to arbitration is the opportunity to have a dispute decided by a person expert in the subject matter of the controversy. Although this may be important in some instances, it seems to me that this is a factor subordinate to the other basic

advantages of arbitration—the opportunity to arrive at a final binding decision after proceedings that are usually far speedier and cheaper than court adjudication and that also offer a high degree of privacy. Of course, the expertise of the arbitrator may contribute to such speed and economy by obviating, among other things, the necessity for expensive expert witnesses on each side.

Aside from that consideration, why do I minimize the importance of expertise on the part of the arbitrator? Let us revert to my opening story about the “education” of the trial examiner. You will recall that we had to reassure defense counsel that such education would be accomplished on the record, not in private.

Yet, in accepting a factfinder who is a pre-educated expert, a litigant takes the chance of a possible built-in bias that experts sometimes have—not a bias toward one party or the other but a bias for or against one theory or another that may be crucial. This is a possible bias about which you may not cross-examine the arbitrator. It has been suggested that in an area subject to real dispute among experts, there does not exist a truly neutral or impartial expert, and that cross-examination is necessary to determine the existence of genuine expertise and skill, as well as possible bias (Diamond, *The Fallacy of the Impartial Expert*).³ These are factors a litigant must consider before choosing a technical expert over a judicial type as a factfinder. If the issue involves breaking into a new area, there may be special danger that your arbitrator may have, in all good faith, a set of mind favoring the status quo or vice versa.

For the purposes of this discussion, I have assumed the use of a single arbitrator. Different considerations would apply if an arbitration panel sat on a case. In such an instance, as I understand it, each party ordinarily nominates an arbitrator, and these two, in turn, designate a “neutral” arbitrator. I would assume that each of the party-designated arbitrators would, in effect, constitute something of an advocate for the party appointing him. Presumably, each of the party-designated arbitrators would essentially occupy the role of expert witness for that party and, as such, attempt to “educate” the neutral arbitrator. That this educational process would take place off the record would give me pause.

In some cases, the lack of subject-matter expertise by judges may be more than compensated by their broader perspective—a judicial perspective, if you will. The technically-trained expert may focus too narrowly on the question presented. Isn't there some truth in the old

³ 3 Archives Crim. Psychodynamics 221 (1959).

saw that an expert is one who knows more and more about less and less? And isn't there some danger stemming from such a limitation on the part of one sitting as a judge? There is much to be said, too, for the generalist qualities of mind and temperament that the best judges have, even in dealing with technical facts.

The plea for a trier of a fact already knowledgeable in the subject matter of the dispute presents its own anomalies. As I read legal history, the beginnings of the jury system in Britain centuries ago, involved the use of jurors familiar with the controversy at bar. As the legal system evolved, it was found preferable to utilize jurors who lacked any familiarity with the case they were to decide.

The judge is a specialist in being unspecialized. A judge can be instructed, case by case, by the experts in any specialty and then reach, possibly subject to relatively rare exceptions, a balanced judgment. The lack of expertise in the particular may be offset by an all-around expertise in fact-finding, including an expertise in wholesome skepticism about expertise. Similarly, the perspective of the generalist judge is likely to include generally accepted notions of fairness and justice.

Even conceding *arguendo* the desirability of an expert as factfinder, I suggest that there may be countervailing considerations. First, there remain many lawyers who cherish the safety factors inherent in court proceedings—the rules of evidence and the full right of appeal. If the stakes are high enough, and if business realities don't demand a quick final judgment, I suspect that many lawyers, and their clients too, may opt for providing the education to the judge rather than entrusting their fate to a technical expert.

Some of this thinking may be in recognition of the possible built-in bias on the part of the expert that we have already referred to. In addition, such alleged bias may be the basis for court proceedings challenging the validity of the arbitration award.

One further point needs to be mentioned. The arbitration of certain types of technical disputes, particularly those involving patents and possible antitrust violations, raises policy questions about the safeguarding of the public interest in private adjudication essentially shielded from public scrutiny. Since you will be exposed tomorrow to an in-depth discussion of such matters, I merely note their existence in passing.

Aside from these considerations, it simply is not true that it is necessary to go to arbitration for a proper resolution of highly technical factual disputes. To the extent that either or both of the parties conclude that the judge can't be sufficiently "educated" in the

course of trial, there are procedures available (albeit not too widely used) to provide expert help for the judge. In the federal courts, for example, the *Handbook of Recommended Procedures for the Trial of Protracted Cases*,⁴ provides as follows:

1. The judge may appoint a master or a panel of masters expert in the disputed area to hear "evidence with respect to complicated scientific and statistical facts of a specialized or technical nature."
2. The parties may present adversary expert witnesses in the traditional manner, but the judge may require pre-trial conferences of such experts to narrow the area of controversy, etc.
3. The judge may call a "neutral expert" as a witness.
4. By agreement of the parties, the disputed question may be referred to a scientific organization for report.
5. An advisory jury may be impanelled.
6. A technical advisory may be employed to advise the judge *in camera* respecting disputed technical facts.

Obviously, there are problems with each of these procedures—some of them of the same nature as those mentioned with respect to experts as arbitrators. (See Schuck, *Techniques for Proof of Complicated Scientific and Economic Facts*).⁵ The most controversial, perhaps, is that of an *in camera* scientific advisor, comparable to a law clerk. Just as I am troubled by the unspoken and uncross-examined predilections of the expert arbitrator, lawyers are dubious about an advisor whose advice to the judge would be out of their presence and hearing. The use of unconfrontable sources of evidence runs against the grain of our adversary system. There is one important difference, however, between the two situations. The expert arbitrator consults personal knowledge and conscience, while the advice of the expert *in camera* advisor is subject to review by the generalist judge. Whatever the problems may be, the important point is that courts are not powerless to deal with complex matters in a variety of ways.

Thus, it is apparent that highly technical factual disputes may be resolved by adjudication in the courts or by arbitration. In either instance, persons expert in the subject matter can contribute to such resolution. It remains for litigants and their lawyers to weigh which forum promises to provide the greatest satisfaction under the circumstances in any given case.

⁴ 24 F.R.D. 351 (1960).

⁵ 40 F.R.D. 33 (1966).

Arbitration—An Alternative to Crowded Courts?

HONORABLE MAURICE P. BOIS*

Everyone apparently agrees that judges have been invited here because of their ignorance in what are commonly known as technical matters. In that regard, I would like to tell you a story about one of the judges in New Hampshire who had a unique way of making decisions. The president of the bar association approached him at the bench one day and said "Your Honor, you are being criticized by the local bar. We know that everytime you make a decision you reach down and spin a wheel under your chair. The bar objects to decisions being made in that fashion, and would prefer that you make your own hard decisions." The judge said, "Okay. So be it.", and started making his own hard decisions. Within three months of the change, the president of the bar was back begging the judge to return to the wheel.

Today, I plan to discuss types of technical cases that commonly arise in New Hampshire, based upon my experience when I was on the Superior Court. Ordinarily, this would have given me an opportunity to elaborate on the virtues of concepts such as arbitration. By virtues, I refer to commonly recognized advantages of arbitration over court proceedings, such as privacy, promptness of decisions, convenience in the time and place of hearing, and the obvious benefits of expertise. Judge Moore, however, has already dealt with these topics in some detail, and so I will focus my remarks on

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particular problems encountered "in the trenches" of the Superior Court.

I will begin this presentation with some figures from the Annual Reports of the New Hampshire Judicial Council. The New Hampshire Superior Court Docket of July 31, 1966 had 10,804 civil cases listed as pending. Civil cases pending as of July 31, 1975 have leaped to 18,441; that represents an increase of about 7,637 cases, or about 70%. The increase in criminal cases is far more dramatic. The July 31, 1966 Council figures showed 648 criminal cases pending. That figure has increased in 1975 to 4,508 cases, representing a 596% increase in the criminal workload since 1966. Within the span of time for these figures, New Hampshire Superior Court Justices have increased in number from 8 to 13, or about 62%.

Upon examination, a few problems become evident. Criminal cases are naturally given priority over civil matters, resulting in a lessening of judicial time available for the latter. Consider also that problems of a technical nature are more likely to arise in civil rather than criminal cases.

My observation is that the proper disposition of criminal cases can be very time consuming. Even guilty pleas require thirty to forty-five minutes for disposition and this is necessary in what I gather to be the view of the public. Run of the mill cases with sentences within five or ten minutes left a bad taste in the mouths of the public.

An expansion of judicial resources can only be of limited benefit. Only recently three new courtrooms were constructed in New Hampshire at a great expense. Money for facilities and new judges is a limiting factor—and nobody is at fault. The state simply does not have enough money to expand the courts at a rate sufficient to offset the increased caseload. The judges work harder and dispose of more cases and fall further behind. It is the civil docket which would suffer the most if alternatives to the courts did not exist.

Problems with lack of time are compounded in highly technical disputes that must be decided by a court. In some cases, a judge's lack of expertise is not critical as long as a judge can be "educated". Thus, we have a question of expediency. The process of education uses time which could be spent on other cases; this is a practical reason for transferring technical issues from the courts. Parenthetically, let me add that the problems of a crowded docket are magnified in more populous states, such as New York or Massachusetts.

How has New Hampshire dealt with the problems of technical issues in the courts? Our state, like many other states, has an arbitra-

tion act: N.H.R.S.A. c. 542:1. Briefly, that statute provides specific authority to hold an arbitration clause in a commercial contract "valid, irrevocable and enforceable". This statute is significant in view of the number of commercial disputes which come before the Superior Court. In my experience, the technical questions presented in such cases tend to be highly time consuming. Furthermore, the crux of the disputes often revolves around matters that require technical knowledge of some sort.

I have an interesting story which tells something of the public's reaction to arbitration. I represented a friend in an architectural contract dispute that went to arbitration. The case was decided before a panel of experts in the field. We lost that particular case, but my friend told me that he was favorably impressed by the proceeding. The same friend and I appeared before a master on another occasion. To explain briefly, a master is a disinterested party, usually an attorney or a retired judge, who makes certain non-judicial determinations and presents his findings to a judge. We won the case before the master, but my friend thought the proceeding was terrible. He didn't like the idea of someone who was not a judge being appointed to hear his case.

Apparently, the expertise of the arbitrators made the difference. It is important that litigants be *satisfied* with arbitration, because agreements to arbitrate are contractual. Without a consensus there can be no arbitration.

A moment ago I made reference to "masters". New Hampshire makes frequent use of masters and referees in the area of no-fault divorce. Before the masters began hearing these cases, the Superior Courts found marital matters occupying 75% of their time. Admittedly though, marital problems are usually not technical ones.

Other New Hampshire statutes recognize that issues involving technical questions may be best solved through arbitration although, of course, judicial review is always available for questions of law. We have a statutory provision in New Hampshire which allows arbitration in professional malpractice claims. N.H. R.S.A. c.519A:1 sets up a panel of twelve laymen, doctors, dentists and lawyers who pass on standards for professional malpractice within their respective fields. This system has worked wonderfully in New Hampshire. Professionals appreciate the privacy of proceedings before professional arbitrators; no professionals like to see news of their mistakes broadcasted.

I will give a final example of a New Hampshire statute which allows a transfer of complex questions from the Superior Courts.

N.H. R.S.A. c.519 permits the Superior Court to appoint auditors in a pending action where issues as to damages are complex, technical or intricate. One or more auditors may be appointed to hear the parties, examine their vouchers and evidence, state the account or damages, and report upon such matters as may be ordered by the court. Reports of the auditors may then be presented to a jury for consideration. This final provision has nothing to do with scientific or technical issues, but it illustrates how the courts deal with an analogous problem. These complex and technical measures of damages, like scientific or technical issues, are best transferred from a court for the sake of judicial economy.

In summary, I believe that most judges can reach a competent decision in many technical cases, provided that the time and experts are available. From my experience, many litigants in cases involving technical issues prefer to go before a judge *regardless* of his lack of expertise. This might be attributed in part to the awe most lay persons hold for the black robe. There are, however, problems in using judges in technical cases; restrictions of time and space are two good examples.

As I indicated earlier, parties may not be satisfied with an appointed substitute for a judge even though judicial review and sometimes a trial *de novo* are available. The salvation for New Hampshire Courts in the limited types of technical issues that we face comes from alternatives like arbitration. When parties wish to avoid a long wait for a day in court, arbitration becomes an attractive alternative. One key to the success is offering experts in a field to resolve disputes. Parties who have no intention of dishonest or sloppy dealings have no reason to avoid a judgment of their occupational peers.

Arbitration appears to me to be the best practical alternative to removing technical issues from crowded courts, while at the same time satisfying the parties to a dispute. I think it important that the consensual nature of arbitration be maintained so that parties do not feel as if they have been forced into some alternative forum.

To maintain the effectiveness of arbitration, we should try to see that the standards for impartial and competent proceedings are upheld. It is not the place of courts to review questions of fact decided through arbitration. Courts are usually not equipped to pass on the merits of highly technical issues, but when there are errors of law which threaten the integrity and utility of a system like arbitration the courts should respond accordingly.

The Administrative Machinery of the American Arbitration Association

RICHARD M. REILLY*

The American Arbitration Association is a 50-year-old private organization which performs all types of dispute resolution. Today I am speaking to a patent group, tonight I will be speaking to a construction group, last week a public sector group, a marital group, another construction group and a labor group. We are a nationwide company of 22 regional offices headquartered in New York, with approximately 400 employees including a legal staff of 6. Our panels include about 40,000 arbitrators whom are held in reserve. I would say 35,000 of these arbitrators never hear a case; they are similar to an army reserve system; if we need them we call them.

Basically what we do is sell you a list. We do not arbitrate ourselves, nor do we make the final determination. No one who works for the AAA arbitrates. We are an administrative agency which sells a list of nine names or 15 or 18 names of experts. My job is to get experts from all different fields whose names I then submit to my advisory council which reviews them before anyone is

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put on the panel. The application is then processed. We try to have experts in all different fields.

For example, an antique case came up in Vermont where we submitted a list of antique experts from Vermont. If it is a marital case, we give you marital people; if a building construction case, we give you building people. We are also doing fair campaign practices now, for example, where one party claims that mud was slung in the literature of the other.

Our next job is to move the case forward. Arbitration comes to us voluntarily: a contract was signed containing Clause 32 which says "Any controversy or claim arising out of or relating to this contract or breach thereof shall be settled by arbitration in accordance with the rules of the American Arbitration Association, and judgment under the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof." It is a simple clause which everyone agrees to.

Often parties work out their own disputes. Half of our cases are settled or withdrawn. One side files and the other says, "They mean business". We start doing our preparation. Both sides do very extensive preparation in arbitration. A lot of times you take that hard look a lot sooner. The average construction arbitration case takes 116 days from start to finish. Compare that to the 36 months which would be a fast case for a jury trial in Boston. It depends on the party. If you want it to move it will move. If one side wants to delay, it can be stalled; and we have had our skeletons hanging around for six years with 184 hearings.

Of the 35,000 cases, approximately 14,000 are accident claims of uninsured motorists. Another 13,000 are labor cases which come in all different fields, both public and private sector. We had one which got us an awful lot of publicity. When does a Playboy Bunny lose her image? Is it age discrimination to say that a young woman at age 24 can no longer serve drinks in a Playboy Club? Due to the uniqueness of the contract, the arbitrator there held that Hugh Hefner was right in discharging her. The image was part of the job as it had been incorporated into the contract. Other cases now are airline cases. A plane starts take off and gets fogged in. Flight attendants serve you drinks and a meal. You kill two and a half hours. They finally decide the fog is not lifting and it taxis back in. Do the attendants get paid flight pay or ground pay? The plane never left the ground, yet the flight attendants say that the work which is normally done in the air is done on the ground. The doors were shut, the plane taxied and never left the ground. Arbitrators quickly resolved the dispute.

The following is what is done if we receive a demand for arbitration in the sports field. First of all, I need two volunteers to do the list selection to demonstrate the process. I will give the two of you a list of nine athletes. Please number on a sheet of paper 1 through 5. First, you would determine what "athlete" means and what skills are involved. I picked this list because they are sports people whom hopefully everyone will be familiar with. The list included Muhammad Ali, boxing; Nadia Comaneci, gymnast; Jimmy Connors, tennis; Billie Jean King, tennis; Jack Nicklaus, golf; Bobby Orr, hockey; Pete Rose, baseball; OJ Simpson, football; and Dr. J., basketball. Both sides would normally have seven days in which to return their list, numbering their choices and crossing out any names they don't like. We are looking for a one person panel, we use a different procedure for a three person panel. *Ed. Note: The selections made were as follows:*

1ST Volunteer		2ND Volunteer	
Number 1	OJ Simpson	Number 1	Muhammad Ali
Number 2	Pete Rose	Number 2	Jimmy Connors
Number 3	Dr. J	Number 3	Bobby Orr
Number 4	Muhammad Ali	Number 4	Pete Rose
Number 5	Bobby Orr	Number 5	OJ Simpson

First of all we omit the athletes not picked at all—Nadia Comaneci, Billy Jean King, Jack Nicklaus. Tallying up their numbers by how they were selected by both persons, Orr is an 8, Rose is a 6, OJ is a 6 and Muhammad Ali is a 5. Muhammad Ali is your arbitrator because he has the lowest number. You number your list not knowing how the other side is picking. Very rarely do we get both sides selecting the same ones. This time we were selecting one arbitrator and we ended up with Muhammad Ali.

As I mentioned earlier, we could have a three person panel where you would have three columns of names. We would submit a short biographical sketch and you would do your own homework. We then would have a three person panel. By picking five names you are sure of getting a selection on the first list. On larger cases we try to go over some ground rules so the process can move quickly. Our job is to get an arbitrator very swiftly. This way we can give three party appointed arbitrators, one could be a lawyer, one could be a technical expert and one could be in public industry. Now that we have a three person panel, both sides feel that they have their man on the panel in the executive session. What we find is that the party appointed persons are toughest on their own.

Architects crucify fellow architects if they see anything faulty. They know where to find it; they know all the tricks.

Yet if you have a three person panel it increases the time and increases the cost. If you have three arbitrants you can decide what the appropriate fee for the arbitrator is: normally between \$150 and \$200 per day. Some will go up to \$750, \$1,000 or \$2,000 each day they sit. In a way you get what you pay for. Under \$50,000 we recommend 1 panelist, over \$50,000 go with a three person panel. For certain cases it's better to have the three persons. You will have the better judgment, but it increases your time and costs. We prefer to have the parties talk this over beforehand, depending on the relationship. Also resolve the locale. So, we give you the list, we appoint the arbitrators, then we attempt a schedule. We also determine locale disputes if there is one. We would hear the contentions of both sides and this administrative decision is made by the New York headquarters.

There is no discovery in arbitration. That upsets people. Attorneys are very comfortable filing motion papers, doing interrogatories. But you come to us voluntarily and everyone agrees as to what's in dispute. You've had 32 meetings on this problem. We don't need discovery. It only increases cost and delay. You will hear more about this tomorrow and later this afternoon, but some of the items we don't have are the strict rules of evidence. People panic over that. "They are going to let everything in, they will let hearsay in." Your technical experts and public industry people say, "Why don't we let them hear it? You know it's garbage, it took 15 minutes. He lost but he got his day in court. He told his story and everyone is happy."

Businessmen are very comfortable as arbitrators, attorneys are not. What evidence can I present, who goes first, etc.; it is very similar to a courtroom but it depends on the arbitrator. Some are very strict constructionists. We prefer you to select your own arbitrator. It helps if you have picked your own poison. But if you can't select and you keep crossing out the names on the list, under our rule, we can appoint the arbitrator always subject to factual objection or cause. Problems arise in the textile industry where everyone knows everyone else. Everyone at one time worked for J.P. Stevens or Burlington or sold to them. That type of conflict occurs more and more.

We also handle any questions or challenges. Occasionally the case has been going along for five days and one party decides that the arbitrator is asking some funny questions. "He has probably seen through our case and is turning a little sour. We will object to

him." Possibly 15 years ago he worked for MIT and MIT is now one of the subs involved in this project. The objecting party wants him to resign. Under our rules the party would come to us. We would get the contentions and the other side would be advised. The arbitrator would never hear it at a hearing. Very likely he is prejudiced and will resign. Our process is to get the cases through as swiftly as possible, after giving both sides due consideration.

Another problem which can come up is that one arbitrator gets sick during a hearing. You had a three person panel, you have gone five days; one has a heart attack and he is out. Using the transcript to inform him, do you find a new arbitrator? Do you go with the two but in fear of a split decision? Do you wipe out all three and start all over again? We as the administrative agency make the final decision to eliminate the delay of having the parties decide.

Transcripts increase the cost. They lead everyone to say we can appeal the case because we have a transcript. We have the record, and we can throw in a couple of loaded questions which the arbitrator can answer in his award and then appeal the award. A good attorney can do that anytime. Especially in labor cases, if you ask an EEOC question. The arbitrator doesn't respond to it in the award and the appeal forces a *de novo* reconsideration as it did in the Gardner/Denver decision. We look at arbitration as final and binding. You come in with all the eggs in the basket, and that is it. If you start looking to expand it in limited review it becomes expanded review. Arbitration is a side step in place of the courts. Therefore, we look at arbitration as final and binding. That is the AAA position. If you want to go the appeal route, go to court.

This morning Bob Rines mentioned looking for a fresher approach. It is up to both sides to decide what they want to do. We are the administrative agency which will process this through. We give you the list of competent experts and your job is to decide how you want the method to work. We will process it through as swiftly as possible. The arbitrators hear nothing except at the hearing. Any communication before or after the hearing is done through our office. The other side always receives a copy and has an opportunity to respond before the arbitrator receives the contentions of both sides. If problems come up we have a postponement.

Under our rules the evidence is only offered at the hearing. All other contact should be with us. Through the AAA Boston office we will then contact the parties. It can seem a little inefficient at times, but in that way we buffer the arbitrator.

Normally the award is a short, one page, dollar/cents amount for

a commercial case. On a labor case it's a short paragraph, followed by eight to ten pages on why we recommend one side and not the other. The parties can tell the arbitrator how they want it done. They can request a breakdown.

Most arbitrators tell me many cases are very simple, 75% can be resolved by anyone. They should not even be in arbitration. Yet if you are looking for a way to avoid litigation we have the system here. Approximately 35,000 people use it every year. It is for the parties to decide, and we go about processing it.

Addendum: Patent, Trademark and Copyright Arbitration Guide

HARRY GOLDSMITH*

Five years have passed by since the publication of the "*Patent, Trademark and Copyright Arbitration Guide*" in the *Journal of the Patent Office Society*, Vol. 53, pages 224 to 255 (April, 1971). The Guide was widely distributed under the joint sponsorship of the New York Patent Law Association and the American Arbitration Association.

In the five years that have gone by, the use of the arbitration process to settle disputes in a number of new areas has expanded considerably. Important decisions have been handed down by the courts, including the U.S. Supreme Court, upholding the arbitration process, and enforcing decisions thereunder. These have involved disputes arising out of international agreements, and coming under the Convention on the Recognition and Enforcement of Foreign Arbitral Awards, which was ratified by the United States in 1970, and incorporated by amendment in the Federal Arbitration Act. Like any other treaty it is now the "Supreme Law of the Land" (Article VI, U.S. Constitution).

Even judges, including the Chief Justice, overwhelmed by swollen dockets, have suggested that many problems can be disposed of by a better way than in the court room—namely, by the use of

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arbitration. And Henry A. Kissinger, Secretary of State, in an address before the United Nations on September 1, 1975, "Global Consensus and Economic Development," in which he spoke on the transfer of technology to developing countries, said, "... arbitral procedures must be promoted as a means for settling investment disputes."

On April 28, 1976, the United Nations Commission on International Trade Law adopted the so-called UNCITRAL Arbitration Rules for world-wide use in the settlement of disputes arising out of international trade. It is felt that the rules will assist international trade by promoting the use of arbitration in all parts of the world and by helping to end the confusing proliferation of rules, each designed for a single region or institution. The document is drafted to bridge the gap between different legal and economic systems and to be broadly acceptable to both common law and Napoleonic Code countries, in socialist and capitalist systems and in developed and developing economies.

Referred to as "a truly historic milestone in the progress of international commercial arbitration," the Helsinki Agreement contains a strong recommendation to organizations, enterprises and firms in the participating States "to include arbitration clauses in commercial contracts and industrial cooperation contracts, or special agreements."

Speaking before the National Conference on the Causes of Popular Dissatisfaction with the Administration of Justice held in Saint Paul, Minnesota, on April 7-9, 1976 under the joint sponsorship of the American Bar Association, the Conference of Chief Justices, and the Judicial Conference of the United States, Chief Justice Burger, the keynote speaker, said:

"As the work of the courts increases, delays and costs will rise, and the well-developed forms of arbitration should have wider use. Lawyers, judges, and social scientists of other countries cannot understand our failure to make greater use of the arbitration process to settle disputes. I submit a reappraisal of the arbitration process in order to determine whether, like the Administrative Procedure Act, arbitration can divert litigation to other channels."

The new President of the American Bar Association, Justin Armströng Stanley, said that his project for the year of his presidency would be finding ways to simplify litigation and appeals by making greater use of arbitration, mediation and "small dispute" tribunals.

While arbitration is established in state, federal and international law, and the use of the arbitration process has expanded for

resolving disputes in many new areas (which will be referred to later), several decisions handed down since the publication of the Arbitration Guide still hold that questions of patent validity and infringement are not arbitrable.

This situation, however, could be changed, since all the Patent Revision bills introduced in the Congress during the past several years each contain a provision, Sec. 294, providing for voluntary arbitration of patent disputes involving questions of validity and infringement. The specific provisions of these bills will be discussed later. Suffice it to say here that there is wide support for legislation to permit voluntary arbitration of patent disputes involving questions of validity and infringement. The House of Delegates of the American Bar Association has gone on record approving in principle legislation to this effect.

Referring to Sec. 294 in his address on June 4, 1976 before the New Jersey Patent Law Association, Commissioner of Patents, C. Marshall Dann, said:

"This seems to me a very important and highly beneficial provision. I think it unfortunate that some courts have concluded that validity and scope should not be subject to arbitration, on the basis that these matters are of such great public interest. An agreement to arbitrate is not an agreement not to contest. Arbitration simply changes the forum and the procedure. It can save a great deal of valuable judicial time."

The Expansion of the Use of Arbitration

The American Arbitration Association, which has just celebrated its 50th anniversary, lists some 700 different areas of disputes involved in arbitration. Some of the newer areas are: malpractice claims involving doctor and patient; auto accident claims; the applicability of the "reserve clause" involving baseball players. In upholding the arbitrator's decision that made two baseball pitchers free agents, United States District Court Judge John W. Oliver said, "The Supreme Court has determined courts have no business overruling an arbitrator's decision," and that the Supreme Court has held that doubts of whether a matter could be arbitrated "should be resolved in favor of coverage by an arbitration clause."

Other new areas are in the public sector. Recently, a New York City police salary dispute involving some \$300-million was decided by arbitration. In New Jersey, the Bergen County Bar Association has set up arbitration procedures for settling conflicts

between its member lawyers. Arbitration to settle computer disputes has also been proposed.

The Federal Trade Commission favors the policy of resolving patent licensing disputes by arbitration. This is reflected in a consent decree under which Xerox Corporation would arbitrate disputes with licensees or applicants for licenses under its more than 1,700 patents under the Commercial Rules of the American Arbitration Association.

The arbitration provision, which is required in every license agreement granted under the consent decree, reads in part: "If a dispute arises between XEROX and a LICENSEE or applicant regarding their respective rights under this order . . . and if the parties are unable to resolve it within 90 days after the existence of such dispute is communicated in writing to XEROX or to LICENSEE or applicant, the dispute shall be determined by arbitration pursuant to this Paragraph . . . Unless otherwise agreed to by the parties, arbitration shall be held at a location in the United States designated by the licensee or applicant and in accordance with the Commercial Arbitration Rules of the American Arbitration Association . . ."

Several paragraphs of "analysis" make it clear that the purpose of the arbitration provision is to relieve the Commission of litigation "involving highly complex issues."

An appeal was taken to the Court of Appeals, but that court did not decide on the arbitration issue. It decided that the District Court order granting the licensee's application for stay of arbitration pending the outcome of its suit seeking declaration if not infringement and invalidity of the patent is not appealable. 186 USPQ 241 (1975). *Certiorari* on this decision was denied by the Supreme Court.

In a later decision, *N.V. Maatschappij Voor Industriële Waarden (MVIW) v. A.O. Smith Corporation, et al*, 190 USPQ 385 (1976), the same Second Circuit Court of Appeals ruled that "claims relating to the validity of MVIW's *United States* patents should be determined by the court and are not arbitrable," citing the *Beckman* and *Diematic* decisions. The court, however, refused to stay arbitration on other issues involving (1) undertakings to manufacture certain products employing the licensed patents and know-how, (2) failure to pay the royalties set forth in the agreement, and (3) improper attempts to disclose confidential know-how to third parties in violation of the agreement.

In *Hanes Corporation v. Millard*, 189 USPQ 331 (1976), the Court of Appeals for the District of Columbia held that with the exception of issues directly bearing on patent validity and scope, which should

appropriately only be decided by the courts, arbitration of other patent-related disputes is entirely proper.

Three French citizens (*Millard*) assigned a hosiery weaving patent to Hanes in 1962. After the patent had expired in 1969, Millard claimed that additional royalties were due, and instituted arbitration proceedings in 1973 in accordance with an arbitration clause, according to the rules of conciliation and arbitration of the International Chamber of Commerce. Hanes, however, rather than pursuing arbitration, filed a declaratory judgment suit, in which he first contended that the products for whose sale royalties are sought were not covered by the patent, or alternatively the patent was invalid. Later he added a count that the claim for royalties was time-barred, sought summary judgment on this count and obtained a ruling from the District Court to this effect.

The Court of Appeals overruled, holding "that the agreement of the parties to arbitrate any dispute arising out of their international commercial transaction is to be respected and enforced by the Federal courts in accord with the explicit provisions of the Arbitration Act."

While trademark rights were involved in the *Scherk* case, it is interesting to speculate whether the Supreme Court would have ruled the same way, ordering arbitration, if U.S. patent rights were involved, and questions of validity and infringement had been raised. The CADRC in the Hanes case had the *Scherk* decision available, but did not apply its broad language to the patent dispute, but instead followed the *Beckman* decision.

It is also interesting to note that in a report made by the International Chamber of Commerce to the 1976 Fall meeting in Vienna of the International Committee on Commercial Arbitrations (ICCA), it was stated that about 14% of the disputes submitted each year to its arbitration tribunal involve industrial or intellectual property rights.

*Provisions in Patent Revision Bills
for Voluntary Arbitration Patent Disputes*

S.2255, the Patent Revision bill, which has passed the Senate, contains the following section:

Sec. 294. Voluntary Arbitration

"(a) The parties to an existing dispute as to patent validity or infringement may, after such dispute has arisen, agree in writing to settle such dispute by arbitration, and such agreement shall be valid, irrevocable, and enforceable, except for any grounds as exist at law or in equity for revocation of any contract.

"(b) Arbitration of such disputes, awards by arbitrators and confirmation of awards shall be governed by Title 9, United States Code, to the extent such title is not inconsistent with this section. In any such arbitration proceeding, the defenses provided for under section 282 of this title shall be considered by the arbitrator.

"(c) Within two months after the award is rendered, the patentee shall give notice thereof in writing to the Commissioner and to the clerk of the district court of the United States for the district and division embracing the place where the arbitration proceeding was conducted. There shall be a separate notice prepared for each patent involved in such proceeding. Such notice shall set forth the names and addresses of the parties, the name of the inventor, and the name of the patent owner, shall designate the number of the patent, shall contain a copy of the award, and shall contain a copy of all submissions to the arbitrator concerning the validity of the patent. The Commissioner shall, upon receipt of such notice, enter the same in the record of the prosecution of such patent.

"(d) Any party to the arbitration proceeding may designate those portions of an award or submission contained in the notice required under subsection (c) of this section that he deems to relate to a trade secret or other confidential research, development, or commercial information belonging to and of substantial value to him. Upon a verified showing of good cause, such designated information shall be kept separate from the file of the patent, and made available only to government agencies on written request.

"(e) Failure to give the required notice shall render permanently unenforceable such award and the patent to which such notice applies. The Commissioner may, however, on a verified showing that failure to give the required notice within the time prescribed by subsection (c) of this section was due to inadvertence, accident, or mistake, permit the filing of the notice after such prescribed time has expired."

The report of the Senate Committee of the Judiciary (No. 94-642) on this section is as follows:

Sec. 294. Voluntary Arbitration.

This section is new and permits parties to existing disputes involving the validity or infringement of a patent, to settle such disputes by arbitration. It will permit the settlement of patent disputes in many cases without the expenses and delays often associated with litigation in the district courts of the United States. It settles any argument over whether or not validity and infringement are proper subjects for arbitration. Also, arbitration must be voluntarily agreed upon by the parties.

Under subsection (b), the arbitration of patent disputes, awards by arbitrators, and the confirmation of awards will be governed by the United States Arbitration Act, Title 9 of the United States Code. By the wording of subsection (a), the section will not be applicable to contracts to arbitrate possible future disputes. Rather, it will apply only to contracts to settle existing patent disputes.

The public interest in assuring that questions of patent validity are not settled by secret proceedings is served by subsection (c). This subsection requires notice to be furnished to the Commissioner and to the clerk of the district court for the district where the

arbitration was held. A time limit is set for furnishing this notice, and the Commissioner is directed by the subsection to enter the notice in the file of the patent. The penalty for failure to provide this notice is the permanent unenforceability of the award and the patent involved. The Commissioner is authorized to extend the time for furnishing the notice on an adequate verified showing as to why it was not timely provided.

The reason why this section has been drafted so that it will not be applicable to contracts to arbitrate possible future disputes, but will apply only to contracts to settle existing disputes is not given. One of the key provisions of the Federal Arbitration Act and most state arbitration acts is that they apply to future disputes as well as existing disputes.

The Fong Bill, S.214, in its Sec. 294 covers both existing and future disputes as did the American Patent Law—American Bar Association Bill S.2930.

Attempts will no doubt be made to amend S.2255, so that Sec. 294 will apply equally to future disputes, as is generally the case in arbitration statutes.

The Arbitration Guide

The above is representative of the developments since the publication in 1971 of the *Patent, Trademark and Copyright Arbitration Guide*. These developments do not basically change basic principles set forth in the *Guide*. They would indicate the need for legislation to permit arbitration of patent validity and infringement questions, so that the patent area will not lag behind in the expansion that is taking place in the use of the arbitration process in settling disputes that may arise in both national and international areas.

When the *Guide* was published, as pointed out therein, the American Arbitration Association had some 20,000 arbitration cases on its docket. In 1975, there were 35,156 cases filed with the AAA. Instead of 20,000 arbitrators on its National Panel of Arbitrators, there are now some 37,000. And the AAA maintains some 21 regional offices to provide service and administration in arbitration proceedings in the major cities of the United States. The administrative fee is based upon the amount of each claim as disclosed when the claim is filed, on a sliding scale, and varies from 3% (minimum \$100) on the amount of claims up to \$10,000 to \$1,850 for a claim of \$200,000.

The following is a list of ingredients which have been recommended as desirable in a well-drafted arbitration clause.

1. An agreement to submit any controversy or claim arising out of the contract to arbitration.

2. Identification of the desired rules, and modification thereof to fit special needs.

3. The location for the arbitration proceedings.

4. The appointing and administering institution.

5. Agreement whether there shall be one or three arbitrators.

6. Agreement that the judgment upon the award may be entered in any court having jurisdiction thereof.

(And where an international agreement is involved):

7. The language to be used in the proceedings.

8. Agreement that the award shall be governed by the UN Convention on the Recognition and Enforcement of Foreign Arbitral Awards of 1958.

9. The laws that shall govern.

10. Agreement on whether the arbitrators are authorized to decide *ex aequo et bono* ("amiable compositeurs")—a phrase derived from civil law meaning what is good and just. This is used in countries of Western Europe, Africa, Asia and Latin America.

Besides the examples of Arbitration Clauses published in the *Guide*, the American Arbitration Association will be glad to supply examples of other clauses to fit more specific situations both domestic and international. The Association has cooperative arrangements with other arbitration organizations such as the International Chamber of Commerce. It supplies free of charge various pamphlets on arbitration in many different areas, and invites inquiries for aid in drafting appropriate arbitration clauses. It maintains probably the most complete library on arbitration that exists in the entire world.

Domestic and international developments in the area of arbitration will lead the alert patent attorney, particularly one who is involved in drafting license agreements, and contracts for industrial, scientific and technical development, to familiarize himself with this area of settling disputes so he can properly advise his client whether it is to his client's advantage to include a proper arbitration clause in the agreement. Often the most imaginative lawyer, it has been said, and the most far-sighted executive cannot predict all the things which may happen during the long life of a patent licensing, or industrial, scientific or technical contract, which may require changes in price, royalty rates or other contractual terms. It is at this point that a knowledge of the usefulness of arbitration is of vital importance. It is hoped that the *Guide* and the addendum will lead the attorney to this knowledge.

A properly written arbitration clause can provide that when un-

predictable changes arise during the life of a contract, the parties will attempt first to agree on fair ways to solve the problem and, if they are unable to do so, the matter will be submitted to arbitration.

A patent attorney may also gain valuable experience by joining the National Panel of Arbitrators of the AAA and serving as an arbitrator.

Edwin A. Robson, Chief Judge, U.S. District Court for the Northern District of Illinois, has written: "We have an old, tried system, *arbitration*, that has not been utilized enough. I urge imaginative and thoughtful members of the bar and the judiciary to develop new and innovative means for employing this useful tool."

Following his own advice, in a first action of its kind, he amended the rules of the court to promulgate Rule 24 of the Civil Rules, which states: "Arbitration: the parties to a civil action may stipulate, subject to the approval of the court, for submission of the controversy, or particular issues therein, to arbitration."

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Amendment to "Arbitration In Intellectual And Industrial Property Sub-Areas—A Practical Look—Copyright & Trademark"

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Determining what is practical is pragmatic; a decision is made by a sense of, the feel of that which seems to be, or is. It avoids the legality of the situation, and law seems to step aside.

Generally, in answer to the propriety of arbitration in copyright and in trademark problems, the response should be simple. If the disputants can agree, can stipulate to a result, they should be able to submit the problem to a third party, the arbitrator, and permit that person to listen and make a decision.

But, just as when disputants stipulate to a result, an award by an arbitrator cannot and should not bind third parties. The dispute concerns a matter "in rem," and it is only as to the dispute and the disputants' connection with it that any result can be sought and reached.

One reason an arbitrator cannot bind third parties is that public policy must prevail. If the third parties are said to be affected by the decision, then an arbitrator is not the person to decide. In that

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instance the third equal branch of government, the judiciary, must hear and decide the case.

Before delving further into the copyright-trademark arbitration link, a passing reference to the most persistent and serious criticism of arbitration must be noted. Arbitrators should make decisions. In this review, it is assumed arbitrators follow this function of decision-making; that they do not lapse into the role of conciliator or a compromisor. Thus, in deciding if arbitration is suitable, the assumption must follow that the individual or individuals sitting as arbitrator or arbitrators know and will fulfill the necessary role and will "judge." If this assumption does not follow, another element enters into the consideration and brings with it too many factors of inconsistency to permit a reasonably firm answer to arbitration or not.

Some years ago, and what was then said and reported remains as valid and vibrant as though repeated today, colloquies were held on the problems of trademark and copyright arbitration. Eminent practitioners of the two specialities shared their views.¹ The general conclusions as to both trademark and copyright problems were that arbitration is possible when factual issues are concerned, and when the economics of the problems presented permit early finality.

The discussion format then, and now, is eight-fold:

1. Is arbitration suitable for trademark or copyright problems?
2. —for any type of problem, and if so, what type?
3. Does a monetary consideration enter into the question of suitability?
4. Does the existence of a law question, as distinguished from a fact question, affect suitability?
5. Is the matter of appeals, or a lack thereof, a factor in suitability, and is this related to the monetary consideration question?
6. Can arbitration affect questions that require Patent or Copyright Office action? Can arbitration be adapted?
7. Should the arbitrator be learned in trademark matters, or be as a judge with judicial temperament foremost?
8. Is there any difference if the problem is domestic (United States) or foreign?

In the discussion then, as now, it was assumed, that the American Arbitration Association rules would be used. That is *the* association today, throughout the United States. It is *the* one whose rules guide and to which any reference is made or implied. Nevertheless, it is possible this can change. Arbitration can be as equity once was and become a new and separate branch of the judiciary.

¹ Colloquy, *Arbitration of Copyright Problems*, 21 Arb. Jour. (No. 1; 1966), and Colloquy, *Arbitration and Trademark Problems*, 21 Arb. Jour. (No. 3; 1966).

If that happens, it will be publicly sponsored and not a private system for the settlement of disputes. This is not to denigrate the progress in handling arguments that the private American Arbitration Association has made. It is to note that a time for greatness comes, and perhaps arbitration should be recognized as rightfully available to all the public and become a part of the judiciary.² This might give arbitration a greater impetus, and expand its role further into not only the field of copyrights and trademarks, but every facet of controversy.

More particularly though, with the caveats as to proper role-filling by the arbitrator, and the use of "triple-A" rules, the question to be explored is that of trademark and copyright problems being resolved by arbitration.

Trademarks

The general conclusion is that trademark problems are suitable for arbitration; but not when the problem presented is one of law. When parties dispute as to whether or not there is confusing similarity as to the trademarks (including service marks), arbitration is presented with a fact question. A fact question is something the parties can stipulate to and so should be able to submit to a third party to decide.

The matter of damages is a traditional type of problem not unique to trademark use and misuse. There is no reason why this cannot be put before an arbitrator, though, in the context of a trademark.

Infringement is a confusing similarity, but it is repeated. If carried down to dilution, and if the mark, or the use of the mark is unfair competition, then these are fact questions. Being fact questions, arbitration should be a possible forum. Unfair competition, of course, extends beyond the use of a trademark in and of itself. Yet in its broadest sense, what is deemed "unfair" is dependent upon facts.³

If parties can agree between themselves that a mark infringes, and if they can recognize a party's mark as valid, as first in use, then cannot this be for arbitration? A court has held not.⁴ So there is a

² Wehringer, *Arbitration Yes, But What Forum?*, 44 N.Y. State Bar Jour. 391 (1972).

³ So a federal appeals court found in *Necchi Sewing Mach. Sales Corp. v. Necchi* (2d Cir. 1966) 369 F.2d 579. There, unfair competition, sales non-efforts, combined with the involvement with third-party companies attempting unauthorized trademark use, was found proper for arbitration.

⁴ The matter of trademark infringement was held to be a federal matter, for the federal district court in *Homewood Industries, Inc. v. Caldwell* (DC Ill. 1973) 360 F.Supp. 1201.

caveat that enters, and if an arbitrator were to decide a mark is invalid or improperly registered, he would be going beyond his function, for third parties would be affected. Yet, if the contestants can agree to that result between them, and the owner of the invalid mark voluntarily cancels, what is the difference? The question might come to the fore that a losing side alleges an arbitration award to voluntarily cancel a trademark should not be enforced, saying that public policy prohibits the enforcement of such an arbitration award. This would be in response to the winning side seeking equitable enforcement from the loser. What would be the outcome is uncertain, though it would probably be against arbitration—a cynic might almost say it will depend on whether or not the Judge or Justice hearing the matter is apt to lean pro- or anti-arbitration, and whether an appeal follows. In spite of this, the premise here espoused is that if a party could unilaterally decide upon a course of action, or if that party could agree with another to do something, there seems no proper reason why a court should not order enforcement if an arbitrator has decided the person or party should do (or even not do) an act.

Other fact questions that seem eminently suited to arbitration concern the priority of adoption of the trademark, as use in the United States still is the criterion for supremacy. A related issue might be whether or not a party has continually used the trademark on goods, thus entitling the party to file the affidavit of continuing use, or whether the use has been sufficiently infrequent to constitute abandonment. That issue, however, is intertwined with law as it involves the question of what is sufficient continuing use. Only if the contestants were able to agree between themselves that if a stated amount of use were shown the issue would be dropped, could an arbitrator move ahead with any confidence. Even so, to the extent third party rights are affected, this is foreclosed. Third parties would be affected, as should the use be sufficient to allege that the mark has become "incontestable," the arbitration process might fail. Here it stands on some weak ground. Possibly a compromise could result that arbitration proceeds as to the facts, and then on stipulated facts the court (or Patent Office) can rule.

Antitrust is a matter where arbitration is up against public policy and cannot function; it is an area for the courts. If, for example, a franchise agreement were involved and the cry of antitrust were raised, almost as though magic words were uttered, the courts would prevail.⁵

⁵ Thus, a trademark license question in a declaratory judgment action found this

Proceeding to the matter of appeals, a question arises whether this is an asset or a hindrance. Those who espouse arbitration point to the lack of appeals with pride, noting this makes for an early finality; the warring sides must lay down their argument, note it settled (and the court supports this when confirming), and get back to the job. Those who hesitate about arbitration hesitate because a poor arbitrator or a poor hearing cannot be corrected by appeals. In fact, wrong as an arbitrator may be (and even the winning side might privately concede a wrongful decision), this does not permit the courts to intervene; only (in New York) when the award was by an arbitrator clearly biased or one who fraudulently did his task, may the courts reject the award.⁶

Whether or not arbitration is sought per a stipulation that the particular matter should be resolved by arbitration, or the matter proceeds to arbitration by virtue of a clause in a contract providing that any and all disputes shall be arbitrated, it does not mean the parties could not provide for a system of review or appeals. Such would go beyond the rules of the American Arbitration Association, but that is no reason why it is not possible. It would be a problem, and probably the solving would mean that at least as much in costs will be spent as if in court, but it could be done. Practicalities of the arbitration process, however, weigh against this.

Consideration has been given, on first use and continuing use factual questions, as to arbitration being a means to affect Patent Office decisions. Bearing in mind that third parties cannot be bound by arbitration, and that the parties can agree to do or not do an act, the question revolves on the matter of court enforcement. If contestants were before the Trademark Section and they wished to arbitrate as to facts, they could ask for a suspension of proceedings pending the arbitration outcome; then, whichever side won would support the other. If one side changed its mind, that would bring up more problems than before. Thus, a matter of good faith is an important element in dubious arbitration submissions.

The example of cancellation of a trademark registration had been mentioned; assuming the parties do agree to abide by arbitra-

question viewed. The claim was made that the license *agrément* violated the Sherman Antitrust Act, and as antitrust claims have been held inappropriate for arbitration, so then must the trademark matter when the antitrust cry is heard. *American Safety Equipment Corp. v. J. P. Maguire & Co.* (2d Cir. 1968) 391 F.2d 821.

⁶ Article 75 of the New York Civil Practice Law & Rules (CPLR); specifically CPLR § 7511.

⁷ If there were an Arbitration Division, perhaps this problem would be ended as discussed in the article noted in footnote 2.

tion, and in fact do, arbitration would be a step ahead of the courts on this question. When a party seeks cancellation of a registration, that alone is all that can happen; cessation of use of the registered trademark does not automatically follow. But, in arbitration the award can order cancellation and the ending of use. Two vital steps are taken in one proceeding. Again, the verb "order" is surrounded by the caveats before mentioned.

In all discussions of technical training, whether trademark law or copyright law or other, when potential parties to an arbitration were asked if the arbitrator should be learned in the specialty or "be as a judge and with judicial temperament foremost," the participants almost always seem to assume anyone chosen will have at least as much judicial temperament as required; the concerns are more apt to be whether or not the arbitrator will truly be a decision-maker rather than a mediator or conciliator. If this hurdle is surmounted, then the consensus seems to be that there would be no point in coming to arbitration unless a specialist were selected. There is one exception, though, and that concerns when a panel of, for example, three arbitrators is used. At such times argument has been heard that a good lawyer as chairman can be most effective if two specialists are sharing the responsibility.

Passing on to the foreign situation problem, the concern is properly jurisdiction, particularly if enforcement (confirmation) of the award is sought. There are too many countries to analyze this country by country, so the summary might be made that if one of the contestants is foreign-based, but the problem concerns United States difficulties, or if the contestants are United States-based and they have foreign problems, arbitration can proceed if the parties are amenable to domestic enforcement procedures.

Copyrights

What has been said as to trademarks, pertaining to fact questions, appeals, foreign problems, and so on is also applicable to copyrights. There is one significant distinction though; the field of copyright law has accepted, generally speaking, the role of arbitration as a practical and useful instrument of dispute resolving. Those outside the field are not apt to realize that this is perhaps one powerful reason why there are, relatively speaking, so few copyright law cases.

Copyright problems have usually concerned license (money) problems. Fact is supreme here. But, couple that with, or have as a distinct problem, that which was a plague under the Copyright Act

of 1909, the right of renewal, and the courts must be the forum. The reason is clear, as in arbitration (copyright, trademarks, or whatever) the arbitrators need not follow law precedent; and that is what is relied upon in legal questions.

Law courts have a superior function when infringement arises of such a nature that a temporary restraining order prior to a preliminary injunction is required. Arbitration cannot equal such strength, speed, and definiteness.

Arbitration is a prime choice for dispute settlement in certain fact situations. It is best to look to the past in illustration. Under the 1909 law, nothing was noted as to "first serial rights," but lawyers who dealt with such items knew what was meant. People in the entertainment business knew with precision what was meant by a "recording" as contrasted to a "demo" in the reproduction end. Assuming the person chosen as the arbitrator is knowledgeable, and as noted in discussing trademarks this seems always assumed to be so, the use of such terms of art shortcuts the path to decision. In law, after the summons and complaint, there might follow various pre-trial efforts as time passes. All of this would only lead to answering what is meant by the term concerned. In arbitration, with that assumption noted, the meaning is known and the argument can proceed.

The third party question in copyrights, as in trademark problems, puts law courts in the position of preference. If a dispute as to a title is concerned, the disputants in the particular industry may have rules for deciding priority and will abide by the decision, but, the third party who is not a member need not follow and can ignore any decision made. It is better for the court to rule on a party's rights to the title, and this, as in all court rulings, has the force of precedent at the minimum. Public notice has been had, but at the expense of time.

There is another distinction to be considered; the Copyright Office is an administrative office, not an office with judicial functions. Arbitration can affect only the arbitrating parties, but that is a form of collateral estoppel. It cannot be *res judicata* to the Copyright Office acting on what is before it.

In copyrights, and Lanham Act trademark matters (as distinguished from state trademark concerns), the federal court has jurisdiction. This brings up where confirmation is to be brought . . . the federal court.

The Copyright Act of 1976 indicates a legislative bias against arbitration. Certainly this may well cause questions of court versus arbitration to be decided in favor of courts and against the arbitra-

tion route of dispute solving. The 1976 Act is detailed beyond the customary broad outlines in legislation, and incorporates what some allege is customarily found in rules drafted pursuant to legislation, specifically presuming that the court will be the forum. For example:

§ 405(b) speaks of "infringer pay copyright owner a reasonable license fee in an amount and on terms fixed by the court." (Emphasis here as in remainder of 1976 Act quotations is the author's.)

§ 410(c) talks of the "evidentiary weight to be accorded the certificate of a registration made thereafter shall be within the discretion of the court."

§ 501 speaks of "institute an action for any infringement . . . The court . . . and § 502(c) Any court having jurisdiction of a civil action." § 503 carries this forth.

An argument was heard that the new Copyright Royalty Tribunal is an arbitration-type forum. Rather, it is actually an administrative court that specifically provides for judicial review. The appeal is to the United States Court of Appeals. § 810.

Therefore, under both the 1909 and the 1976 Act, the use of arbitration has not changed except that the 1976 Act carries the distinct emphasis on court resolutions, if there is any question as to the forum. If no question of law, and if the parties can stipulate between themselves, the use of arbitration remains a possibility.

A few other points not mentioned within the eight-fold guide should be noted before leaving this topic. Public notice was mentioned in passing, and it is now noted with emphasis. Practicality is the key to the topic of arbitration and trademarks-copyrights in this review. Public notice should not be dismissed as unimportant. It is all well and good to have a successful arbitration, but if the certainty of victory is reasonably present, the lawyer should decide on the force a court-determination-victory would have on problems yet to come. This public notice can be vital, or at the minimum quite helpful, in discouraging an infringer in the future. It is also a public record that shows that the party is not unwilling to expend time, effort, and, importantly, money, in standing up for its rights. This has the positive aid of inducing others to consider settlement perhaps more seriously than would otherwise be the case.

To this can be added the matter of appeals. In this though, the losing side is really the determining factor for it has the appeal-right. If the losing side does appeal, and the victory is affirmed, then the public notice increases in its importance, and all else is increased in value.

Cost was mentioned; it will be mentioned again and again. The favorite theme of pro-arbitration people seemingly is "cost." The

argument is that arbitration is cheaper. Maybe. This need not necessarily be so; but the chances are that if appeals are considered along with cost considerations of the trial or arbitration hearing, arbitration should show savings.

Another claim for arbitration is rapidity; that can be dismissed as a claim that need not be. If the case is long, or likely to be long, it is complicated by the fact that arbitrators are volunteers and might not be able to sit for an extended period of time while each side carefully, albeit laboriously, presents its view. That endangers the swiftness of solution. It can mean that months can pass, for the arbitrator with other claims on his time (and if a panel the problem is three-squared) cannot sit continually. This means arbitration can be slow, while a court trial, once begun, usually continues quickly to the end.

It is questioned, but unanswerable now, what would and could happen if the parties would and could pay a sufficient amount to an arbitrator in such a potentially protracted situation that the arbitrator would be retained (as is each party's attorney) to give full attention to the case until completed. The difficulty here is that both sides under present rules must agree to the payment and retainer concept. It would place a much higher cost figure on arbitration, and might well mean that court (ignoring the appellate possibility) is cheaper. As there are other claims for arbitration being preferable, it may be that cost is the lesser concern.

Arbitration should never be used, and while mentioned finally it is by no means minimized, if economic life and death are concerned. If the right to use the trademark, for example, is primary (or the damage question so high that a loss would make bankruptcy a possibility), the court with all appellate possibilities is superior. A trademark is a life and death matter when it represents the entire line of goods, or is, essentially, the owner. It is not life and death if it is a subsidiary, a grade mark, or other lesser quality though still considered in law a trademark. In such instances, the claimed swiftness of arbitration (and then its assumed protracted hearing time is not required) as well as the lack of public notice can be a distinct asset. Having a decision made, one way or the other, means the participants to the arbitration can get back to the tasks with which they should be concerned.

Conclusion

Both for trademark and copyright problems the eight-fold questions are rephrased as statements:

1. Arbitration is suitable for both trademark and copyright questions.
2. But for questions of fact and not of law, and further,
3. Not where economic life and death might depend upon the decision.
4. Law questions are proper for the court, as arbitrators need not adhere to either precedent or to law. Further, when public policy is involved, the court must be the forum.
5. Although the absence of appeals is a definite factor in the claimed reduced total cost of arbitration, the absence of appeals is a hindrance if a mistaken judgment (award) by an arbitrator damages a party.
6. Arbitration can affect Patent Office or Copyright Office decisions only as to such matters where the parties have the right to agree, to a fact, or conclusion; and even then cannot be used if public policy issues are involved. In any event, this would be binding only as between the parties and should be entered into only where the good faith adherence to a decision (award) is not likely to be questioned by a losing party.
7. In espousing arbitration, the parties usually assume some judicial temperament is present in the arbitrator, and then for expertise as to the topic for decision in the then-proposed arbitrator.
8. Although both domestic and foreign problems seemingly have parallel aspects, in view of enforcement problems that may arise in other countries, some link to arbitration with enforcement concerns not of moment must be found before a foreign problem should be arbitrated.

In all of the above, review, acceptance, even espousal of the rules of the American Arbitration Association are assumed. This is not to say that there cannot arise an Arbitration Division of a state, or even a federal court system. Should such arise, it would be a tribute to the pioneering work of the "triple-A," no matter how much it resists the coming, and would not change the aptness of arbitration as discussed above, unless it would be to bring arbitration into greater use and acceptance.

Arbitration of Patent Disputes

THEODORE L. BOWES*

I'm pleased to note that the title for this panel discussion refers to the *practical* aspect of arbitration. Corporations live on profits. Cost reduction is a way of life and there is no logical reason why attempts to minimize expenses shouldn't apply to litigation. Further, concentrating on the practical aspect permits me to speak on the basis of actual experience and to forego time consuming legal research and the mechanics of working with the American Arbitration Association.

Arbitration has always interested me as a substitute for a court trial (although I have succeeded only twice in getting an opponent into arbitration). Since I favor this solution, I am particularly interested in the Administration's patent reform bill. A few good ideas were proposed including, at least in principle, Section 294, "Voluntary Arbitration." There have been people who were fearful that arbitration would too often be construed as collusion and lead to an attempt to monopolize. I think that one very important thing to remember is that the bill is, essentially, a Department of Justice drafting effort and, presumably, bears its endorsement.

The costs of litigation are a material consideration. Especially burdensome are pretrial matters—interrogatories, discovery, judicial conferences, and so on. Trial expenses for counsel, experts,

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reporters, witness fees, production and copying documents add heavily to the cost of litigation. If any, most, or all of these can be reduced and, hopefully, eliminated, large savings would result.

Frequently years pass before a bill of complaint results in a decision and opinion. Depending on the determination of the parties, arbitrations are usually quickly handled or at least are much shorter in duration than a lawsuit. Thus, even if the arbitration proves expensive, the savings in time may justify the procedure.

The Nature of Arbitration

I have heard it said that AAA procedures are sufficiently burdensome that one might as well go to court because savings will not be significant. If that is a fact, I wonder whether the fault doesn't lie with the parties. If the arbitration is set up to save time, the result should be lower cost. My participation turns on a more informal approach. In its simplest form, an arbitration can be set up with a single arbitrator and the presentation limited to briefs and documents including affidavits. Limited discovery can be added to this; limited as to scope, number of witnesses, cross-examination, and any other aspect including final arguments. Simplification extends also to location (or locations) and time.

An arbitration such as that alluded to above can be very inexpensive. In one case which Westinghouse arbitrated, the only true issue was infringement of a single patent. Westinghouse did not challenge validity, but had designed specifically to avoid infringement of that particular patent. We thought we had done so successfully, but the patent owner disagreed. In setting up the arbitration, we agreed that each party would present the other with nominees for a single arbitrator. Since one name was common to both lists, the selection was easy.

It was also agreed that the essential facts on which a decision could be based would be stipulated and each party supplied exhibits and affidavits. The patent owner requested the right to examine our design engineer on how he developed his design and we gave that right. We also agreed that there would be no appeal, but that reconsideration could be sought. We agreed on a license, including royalty rates, to be effective if we were held to have infringed. We agreed to split the cost. The entire procedure came to \$7,000.

Another arbitration in which I was involved considered construction of a license agreement. More specifically, the issue was whether a front payment could be applied against royalties owed. We se-

lected a single arbitrator, and rested the case solely on the agreement plus briefs from each side. There were no affidavits and no examination. The loser was to pay the entire bill from the arbitrator and each party agreed to take care of his own expenses. The arbitrations were as simple as can be imagined. The issues were narrow and clearly defined, the rules of evidence were not important or were ignored, and there were no hearings. Both parties felt the need for a referee, and arbitration was the solution.

The Nature of Disputes

The nature of the issues plays an important part in determining the desirability and effectiveness of an arbitration proceeding. Where the issues are essentially contract interpretation, arbitration is especially suitable as it minimized friction. A long drawn out period ending in litigation at the court level can gradually erode the feelings of the parties and can even harm good relations between them. Attorneys are not immune to this. I have seen cases where attorneys became so locked into established positions that any ability to shift ground—even to compromise—was lost and others had to step in. Matters of royalty, including the applicable base and whether due; conditions for revision, exercise of best efforts; extent of conditions permitting termination; timeliness of reports and other acts such as surround a notice of termination; the applicability of employee's patent agreements; and the propriety of deductions from royalty are matters of infringement which seem particularly appropriate for arbitration.

Any controversy which may adversely affect the public presents some sort of problem to would-be arbitrators. This should not be too great a problem if the parties intend any decision to be effective only between the parties. Cases seem to support this position.

Infringement issues should not be of public concern because infringement doesn't really directly affect the public. It may affect the manufacturer and seller, but that is beside the point. I can imagine that the Department of Justice might be concerned if only two suppliers were involved, and one of them, after being held to infringe dropped the infringing product from his line resulting in a loss of competition. This should not be important if the decision to drop out of the market is an arm's length decision, but only if the parties agreed beforehand that the loser would stop manufacture.

This leads to the conclusion that applies to so many situations. It is not the idea of arbitration, or even the result of the arbitrator's

decision that is important, but the existence of facts showing collusion that can be dangerous.

One difficult area, then, could be settlement of interferences by arbitration. Interferences are currently regularly settled by comparison of proofs. Arbitration should be safer than this. A full statement filed in the Patent and Trademark Office seems advisable.

I suppose the most difficult area for arbitration is the validity issue. Even here, so long as the result is clearly understood to be effective only between the parties, no great problem should exist. With *Lear v. Adkins*¹ on record, it must be clear that no attempt to bind the public is being made. Arbitration under the auspices of the AAA would seem wise in this area of concern because the decision would then be a bit further removed from the parties themselves.

This brings us back to Section 294 of S. 2255. This section condones arbitration of *validity* matters as well as of *infringement* problems. In fact, it reaches only these two areas, and seems defective in not being available for all matters affecting patents and their use. The part that raises questions in my mind is the last sentence of § 294 (b) which reads: "In any such arbitration proceeding, the defenses provided for under section 282 of this title *shall be considered* by the arbitrator".

Subsection (b) of Section 282 identifies under the heading (1) noninfringement, absence of liability for infringement, or unenforceability. Under paragraph (2) one finds "invalidity of the patent or any claim in suit on any ground specified in Part II of this title as a condition for patentability." Part II covers patentability of inventions, application for patent, examination, review of Patent Office decisions, issue of patents, plant patents, design patents, secrecy and foreign filing, deferred examination, and finally amendment, cancellation and reissue. Thus, any defect in any of these areas *must* be raised and considered. In paragraph (3) of Section 282, we find invalidity for failure to comply with Sections 112, 115, 131 or 251 unless inadvertence, accident, or mistake without willful intent to defraud, mislead or deceive the public exists.

This makes arbitration much more difficult. The proposal doesn't *permit* arbitrators to consider such defenses, it *demand*s that they do so. If the parties do not voluntarily direct themselves to each of these defenses, the arbitrator has no choice but to require that the record reflect analysis of each and every one of the identified areas. Failure to do so will probably support a challenge of unclean hands, or even

¹ 395 U.S. 653.

collusion and antitrust violation. Under these conditions, who will be foolhardy enough to voluntarily arbitrate under Section 294?

Assuming passage of a bill containing Sections 282 and 294, or ones like it, what is the effect of proceeding outside Section 294? It cannot be done, I suggest, if the issues are infringement and validity. It seems to me that voluntary arbitration can be safe under Section 294 only if it is complied with completely and exactly.

To develop and either prosecute or defend, depending on which side you are on, will be costly. Under these conditions, you may very well be better off in court where you do not have to make any of these defenses if you elect not to. Even this statement needs qualification. I remember one infringement suit when I elected not to raise antitrust defenses, feeling that it at least bordered on the spurious and that the end would not justify the means. The judge became worried, and wondered, whether we were colluding with the plaintiff to uphold the validity of the patent.

Assuming, then, that anything as potentially difficult as Section 294 fails in enactment, are there any disadvantages to voluntary arbitration? Several have been voiced, but I think that they are *not* sound. Firstly, there is the objection that one cannot show the entire case. That is not true. One can explore any issue covered by the submittal.

Secondly, there is the idea that arbitration may be inexpensive, but it is a cheap way to lose. The logic of this argument escapes me. Someone has to lose. It is better for the loser to lose cheaply than to lose expensively. If your case is weak before an arbitrator, it must be just as weak before a judge. It may be that some of us think we can more easily fool a judge than an arbitrator. This theory, to the extent that it is true, does not justify an answer—except that in matters of validity a grain of truth may be found. Prominent jurists such as former Supreme Court Justices Jackson and Fortas, and John Brown, Chief Judge in the 5th Circuit, have publicly recognized judicial hostility to patents.

Thirdly, there is the misconception that decision by arbitration is more susceptible to future trouble—as by antitrust attack—than if the issues had been adjudicated in court. This is true in theory, but, when the small number of cases involved is considered, the risk is not great—especially when the comparison has been carefully drawn. Action by either party improperly exploiting an arbitrator's decision cannot properly be charged against the idea of arbitration.

Finally, one can consider the argument that arbitration is not helpful in resolving complicated cases involving misuse and antitrust

issues. Complication is not a deterrent. I personally am sympathetic to the avoidance of misuse, fraud, and antitrust issues in arbitration proceedings.

A Practical Look at Arbitration In Trade Secrets and Know How Cases

EDWARD F. McKIE, JR.*

The general thesis of this paper is that arbitration should be considered as a possible alternative to court action for disposition of controversies in the trade secrets and know how fields. That is to say, arbitration is merely one of the possible alternatives. There are some circumstances in which arbitration is not the most desirable way to proceed. There are others in which the benefits of arbitration are so substantial, as in the saving in expense, the saving in time; and the privacy of the proceeding, that arbitration is justifiable.

A useful way to begin consideration of this topic is the definition supplied by the American Arbitration Association and to which I was directed by Harry Goldsmith's fine paper, which he has brought up to date in these sessions. The definition is as follows:

"The reference of a dispute by voluntary agreement of the parties to an impartial person for determination on the basis of evidence and argument presented by such parties, who agree in advance to accept the decision of the arbitrator as final and binding."

Propriety of Arbitration

Having established what an arbitration proceeding is and how it can be implemented, by this definition, I would like first to deal

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with the propriety of application to arbitration of a dispute in this field. There are many court decisions that hold that application to arbitration is not appropriate and not in the public interest for various types of disputes. As the Supreme Court recently indicated in *Scherk v. Alberto-Culver Co.*,¹ there was substantial hostility in the courts to use of arbitration, going back hundreds of years. The U. S. Arbitration Act of 1924 to some extent reversed these expressions of hostility. But for a number of types of proceedings in which the public interest can be said to be involved, the courts have still refused to follow the statutory policy of the Arbitration Act. Antitrust proceedings and proceedings involving validity and infringement of patents have been said to be outside of the scope of the Act. Of course, controversies involving solely know-how and trade secrets, and not involving the validity and infringement of patents, are not subject to this exception. But, in my view, the *Scherk* opinion indicates some reversal in the tide of antipathy to arbitration proceedings, even in cases where there has previously been such antipathy.

Scherk involved a trademark rather than a patent problem, but the public interest concerned was by reason of the Securities Act and the statutory expression in that Act which foreclosed waivers of the requirements of the Act. In that case, however, despite the problem with the statutory policy of the Securities Act, the Supreme Court required that the agreement of the parties for submission to arbitration must be implemented. The Court noted that the involved agreement was a truly international agreement. Because the policy of the Arbitration Act for disposition by arbitration of controversies of an international character took precedence over the statutory policy of the Arbitration Act, arbitration was enforced. I suggest that the policy expressed in *Scherk* by the Supreme Court may well have application in the future to arbitration proceedings in other areas than trademark problems.

In any event, as T. L. Bowes has pointed out in his paper, the Congress is giving serious consideration to removal of the inhibition against arbitration in respect to patent validity and infringement disputes. That inhibition, however, does not and need not refer to trade secrets and know-how disputes because there has never been any question that such disputes are appropriately determined by arbitration.

¹ 417 U.S. 506 at 510 (1974).

Elements of Arbitration

Having said that arbitration is not disabled by court decisions from use in determination of trade secret and know-how disputes, we can turn to the particular elements of arbitration that may make it a desirable alternative to court proceedings for determination of such disputes.

As indicated by the definition, arbitration is only by voluntary agreement of the parties. If only one of the parties to a dispute wants to go to arbitration, unless they have both voluntarily agreed earlier to arbitrate, arbitration cannot be employed. Of course, arbitration frequently results from an agreement made in advance of any controversy. It is quite common for the parties to a know-how and trade secret agreement to state in that agreement that any future controversies will be resolved by arbitration. That type of agreement is binding and can be enforced by the courts. Indeed, such an agreement was recently enforced in the impossible to pronounce case of *N. V. Maatschappij Voor Industriële Waarden v. Smith Corp.*² In that case, the Second Circuit required that the issue of breach of a know-how agreement be determined by arbitration, pursuant to agreement of the parties within the agreement itself, even though antitrust and patent validity issues were also tendered to the court and would subsequently be considered by the court.

Expertise of the Arbitrator

Another aspect of the definition is the neutrality of the arbitrator. One of the benefits of use by the parties of the rules of the American Arbitration Association is the availability from that organization of rosters of possibly neutral arbitrators. Since the Association's arbiters are categorized in such a manner that particular expertise of the arbitrators is indicated, the parties can choose a neutral arbitrator from that list by consideration of particular kinds of expertise. This advantage is particularly important in know-how and trade secret disputes where there can be a great saving in time of the parties if the arbitrator has expertise in the field of the agreement. That advantage is not ordinarily obtained by application to a court for resolution of the dispute.

The lists maintained by the American Arbitration Association are of persons who are willing to arbitrate disputes without payment of a fee. Ordinarily, however, payment of a fee may well be appropriate

² 190 USPQ 385 (2d Cir. 1976).

where the dispute will require a lengthy hearing of more than a day or so.

There is naturally a mirror disadvantage to the selection of an expert arbitrator. The arbitrator may well have prejudices obtained in the process of the education leading toward expertise which would not be known by the parties. If one educates a court in a particular area of technology, during the court proceeding, one knows what prejudices there are because one was present when they were instilled. The same is not true of an expert neutral arbitrator. Nevertheless, this particular disadvantage ordinarily will not be a major difficulty.

Other Advantages

There are other advantages to arbitration. One is true of all kinds of arbitration proceedings, and that is speed of disposition of the controversy. Another is saving in expense. As Mr. Bowes has pointed out, discovery is a major cost in litigation, and that is particularly true in the fields of patent and know-how disputes. Ordinarily, there is no discovery in arbitration, other than by agreement of the parties. Therefore, the expense of discovery can be avoided. If the parties do agree, discovery can be employed, but the desire of the parties for saving in expense would probably prevent the extent of discovery from getting out of hand.

Again, however, this leads to a disadvantage of arbitration, and that is in cases in which discovery is necessary as an aid to disposition of the controversy. Since discovery cannot be enforced in arbitration, there being no statutory provision for discovery as such, one will not wish to make use of arbitration where a case requires substantial discovery.

It also can be a great cost saving that there is no requirement in arbitration that a record be maintained. Particularly where the hearing is relatively long, this can be a substantial saving. On the other hand, the parties may wish to provide a record to make certain that the arbitrators have all of the proceedings before them at the time they make their awards. By agreement of the parties, a record can be obtained.

As indicated above, there is the advantage of speedy decision. As an example, the rules of the American Arbitration Association provide that the award of the arbitrator must be made within 30 days from the close of evidence in the case, absent other agreement of the parties. One of the reasons that an arbitrator can make an award

within such a short period of time is that there is no requirement for a written opinion to justify the award. Only the details of the award itself need be stated.

Limited Review

The reason that no opinion is necessary is that there is no review of an arbitrator's award on the merits, the parties having agreed to the finality of the award. As in most cases, there are exceptions to this general rule, but in arbitration proceedings the extent of review is very strictly limited. Ordinarily, under the provisions of the Arbitration Act,³ the award can be vacated where it was procured by corruption, fraud or undue means, where there was evident partiality or corruption in the arbitrators, or where there was prejudice to the rights of the parties, as by failure to postpone the hearing upon sufficient cause, or refusal to hear pertinent and material evidence. Finally, where the arbitrators exceeded their powers or did not properly execute them, the award can be vacated.

It can be seen that none of these reasons for vacation of an award really requires a written opinion to justify that award. Indeed, the American Arbitration Association ordinarily discourages the preparation of opinions.

One of the reasons for vacating an award of arbitration referred to above deserves some further reference: that is the partiality of the arbitrator. Ordinarily, the American Arbitration Association requires that any arbitrator appointed from its list identify any connection that might exist with the parties. They are thereby on notice of any possible reason for partiality. During the course of the arbitration hearing, it is possible that witnesses will be introduced with whom the arbitrator has a previous connection. That connection should, of course, be disclosed immediately so that the parties may decide what to do.

The American Arbitration Association also strongly suggests that all of the evidence that is offered by the parties should be considered, though there are obviously some limits upon consideration of evidence that would not normally be introduced in court. In that connection, the Rules of Evidence applicable in court proceedings need not be employed by the arbitrator in an arbitration proceeding. Long harangues about admissibility of evidence may therefore be avoided. Evidence that is clearly not competent, however, such as the classic hearsay type of evidence, usually can be excluded.

³ Title 9, U.S. Code § 10.

Definition of the Subject for Award

The arbitrator is also cautioned to decide only what is submitted during the proceeding for decision. Where arbitration is agreed to after the controversy has arisen, the definition of the dispute can be made rather precise and frequently is so made by a court order in the event that arbitration is enforced. As an illustration, the District Court in the *MVIW v. Smith* case, referred to earlier, posed specific questions to the arbitrator, and the arbitration award could therefore directly follow those questions. Similarly, if the parties agree to submission to an arbitrator after the controversy has arisen, they can define exactly what is to be submitted at the time they make their agreement for submission.

Privacy

A final advantage of arbitration which is particularly relevant to trade secrets and know-how disputes is the privacy of such a proceeding. We are all acquainted with the complications that arise when a trade secret must be disclosed to the court for decision by litigation. Since arbitration proceedings are not made public by publication of an opinion, confidential information can be disclosed without fear of later publication. Indeed, even the arbitration award is not published unless one of the parties chooses to publish it. If there is a desire to prevent publication of the award, that can be agreed to by the parties ahead of time.

In conclusion, I repeat the thesis which I expressed at the beginning of this paper. Arbitration is an alternative to litigation for solution of disputes in the trade secret and know-how fields. Surely it should not be used in every case, but where speed, saving in expense, or privacy is important, then arbitration is an alternative that should be considered.

The Science Court—Another Alternative

DR. ARTHUR KANTROWITZ*

I would like to start by reporting to you the latest bit of gossip I heard from some philosophy students at Moscow University. As you know, it has always been standard among students of philosophy to refer to their discipline as the finding of a black cat in a dark room. The students of Moscow University have an additional saying. They also have to take courses in Marxist philosophy which they describe as finding a black cat which isn't there in a dark room. And then they have to take courses in Marxist/Leninist philosophy which they call the finding of a black cat that isn't there in a dark room and periodically having to announce, "I've got it." And that is the subject of my talk today.

We are witnessing an invasion of ideologies into statements of fact. We are seeing what I like to refer to as the major source of pollution in our society—fact pollution—by people who have an ax to grind. Often the ax is simple commercial self-interest. This has always been with us, is easy to recognize, and creates no problem. But we also have seen a new type of ax-grinder, people who make a profession of alarm. Some of these people have been of tremendous service to our society in calling our attention to matters that really deserved our attention. But others have been finding black cats. The latter make supposed statements of fact when it is necessary for their ideology—whenever it is necessary for their ideology.

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Because I am talking about the invasion of ideologies into statements of fact, it seems to be appropriate that I should tell you what my ideology is so that you can properly discount it. I grew up completely imbued with the idea of progress; that progress was the principle around which our society was organized and that progress was based on the axiom that scientific knowledge is cumulative. That is, scientific knowledge builds upon what has gone before. It enlarges it, deepens it and doesn't destroy what has gone before. What was true remains true. Historically, the full recognition of the power of the cumulative nature of science occurred during the French Enlightenment. Now it seems that this precious doctrine, at least precious to me, has been replaced by a confused pessimism in our time.

That pessimism is, of course, not new. I attended a philosophy class when I was a student and was surprised and shocked to learn that many philosophers referred to the Enlightenment's idea of progress as naive optimism. That gave me pause, but, when I began to reflect on the pessimism of our time, I realized that the universal characteristic of pessimism is that it neglects the possibility of creative responses to problems. Even more, it neglects the creation of new opportunities which broaden the options that mankind has. It is that neglect that is responsible for the dismal failure of Malthus' 1798 essay on population. His predictions for what was going to happen 25 years later would make amusing reading today *except* that they are still repeated as in *The Limits to Growth*. They make exactly the same statements.

Having stated my ideology, I would like to return to the problems of scientific facts becoming political issues. It has made it completely impossible for political figures to get an honest estimate of what the facts are on certain issues. Consider, for example, the recombinant DNA issue. The Cambridge, Massachusetts City Council has had remarkably good fun with the academics (for whom they don't have too much love anyway). They have had remarkably good fun by exhibiting two Nobel Prize winning academics going at each other's throat. One says black and the other says white while the mayor and city council enjoy the demonstration of what they have always known—that the academics are not to be trusted.

This type of debate has really undermined the credibility of science. It has begun to erode the basic proposition that science is cumulative. If we are to recover some of the optimism of the idea of progress, some of the power of that self-fulfilling prophesy, then we

must have at least one procedure in the scientific community which makes a serious attempt to separate facts from values.

Separating facts from values is the first proposition of the science court. It deals only with fact. It makes no decision. It does not even make a recommendation, but simply a statement of what the facts are when these facts are in controversy. For example, in the recombinant DNA issue, actual statements would be made about what could be accomplished from this research. What are the dangers? How can those dangers be controlled? How do the procedures suggested by NIH compare with the dangers? And so on. These would be factual statements, not recommendations on what to do about it. That is principle number one: the separation of facts from values.

I must admit that there is an enormous amount of literature on the philosophical question of to what degree you can separate facts from values. In theory, they cannot be rigorously separated. But, on the other hand, we do separate the two in our daily lives and do it effectively. If you really set out to separate facts and values, you can go a long way—certainly much farther than if you don't try. Our present scientific advisory procedures do not try.

For example, consider the recent statement from the National Academy of Sciences on fluorocarbons and the ozone layer. First, they published their recommendations on what society should do. They didn't publish the statements of facts until much later and, of course, that didn't attract much attention compared to their judgment of what should be done. That is an illustration of not separating facts and values.

Today's technology not only has a vast power to accomplish anything undertaken, but also it has ways of amplifying that power by the creation of new institutions. The power of such institutions to generate even newer technology is best described as infinite. The whole situation that our society faces is comparable to being a passenger in a rapidly speeding automobile. You can't slow it down. I think that people that try to slow down technology are kidding themselves. In my metaphor for the current system of science advice, we have been told that it is a good idea to have a dirty windshield. If you don't have a dirty windshield, you might take that road rather than this one and the proponents of the dirty windshield know it is better for us to take this road. Scientists come to society with statements about what society should do rather than what the facts are. The emphasis is placed on their values although they have

no special ability to guide society. In order, however, to govern this enormously powerful technology, we need the power of the scientist. We need the enthusiasm which as Emerson once said "without which nothing great can ever be done". And it is a great undertaking to control technology.

How do you harness the power of scientists, and yet avoid having them tell you what to do? How do you get them in a situation where their great enthusiasm is harnessed to the power of getting the facts? What you do, of course, is what the law discovered a very long time ago—you separate the functions of judges from the functions of the advocates. As I understand it, Anglo Saxon law abolished the Star Chamber in the year 1643 and it's high time the scientific community found out about it! Scientists normally come forth as judges. This, in my opinion, is an abuse of their function. They should be harnessed to getting out the facts in a way that will stand the test of cross examination by their adversary. Therefore, the way to harness the power of the enthusiasts is to cast them not in the role of judges, but of adversaries who confront each other in an effort to utilize what is called in the law, the engine of truth. Out of that conflict can come a more powerful assessment of what the facts are. Thus, the second thing I would advocate in the provision of scientific advice to the body politic, is that we separate the function of judges from the function of advocates.

In my opinion, those selected as judges should be scientists who have been trained in the role of scientific evidence. As lawyers you do not try to define what is meant by "due process." Scientists are also hesitant to define scientific evidence, and for the same reasons. What can be taken as scientific evidence is continuously growing with the contributions of imaginative people. Thus, to understand the problems that might come before the Science Court, the judges must be people who have grown up in the scientific tradition and have gained a feeling for the old and deep traditions by personal involvement through long periods of time. They must be restricted from passing judgment in cases where they have any involvement. You could not have somebody passing judgment on recombinant DNA if he is a geneticist. If he works in the field he can't possibly be without bias; therefore, judges should be people from neighboring fields. But you must stay as close as you can to the field to insure understanding.

One limitation, however, is that these people must be scientists. If the advocates are better acquainted with the field by orders of magnitude than the judges before whom they appear, then the

discussion cannot be held at the most sophisticated scientific level. It will be addressed down to the judges to whom they are speaking. I recognize that the legal profession has cultivated a great ability to learn something and debate about diverse areas. Nevertheless, when we are dealing with questions of facts—and purely questions of facts—that concern the whole future of society, it is incumbent upon us to get judgment from people who have devoted as much of their lives as possible to the understanding of adjacent areas of science and who are part of the tradition that embodies the rules of scientific evidence.

The first two rules for the Science Court procedure are then to separate facts from values to the best of our ability and to separate the functions of judges from the functions of advocates. Finally, this should be done in a way that involves the public as much as possible. The public can take a little amusement at watching Nobel Prize winners scrap with each other. It would be much more educational and much more entertaining though, if they really cross-examined each other on the factual basis or their position in full public view.

This again contrasts with what is done today. For example, the National Academy of Sciences (which together with the National Research Council is our major resource for getting scientific advice into the body politic) went to court to preserve its rights to proceed in secrecy in the discussion of scientific questions.

I have been advocating this type of procedure for a little over ten years and I have come to believe that it is a matter of some importance. We need to think in a basic way of how to find out what the scientific facts are concerning the questions that we face as a society. I have come to believe that the analogy between our society and a speeding automobile is a close one, and that we had better get the windshield clean fast.

The "Case" for Expanded Judicial Review of Commercial Arbitration Awards

LANE MCGOVERN*

Every young lawyer growing up in the United States in the years since World War II has been told over and over again—in a drumbeat of law review articles, seminars, lectures, booklets and handouts—that judicial review of arbitration awards is a Bad Thing. It causes delay. It makes people focus on legalistic principles instead of the things that really matter. It defeats the principal objective of arbitration—which is to get the dispute speedily terminated and over with. Gradually, in the 1950's and 60's, as the growth of case loads constructed an ever-increasing burden, our courts picked up the beat. Don't come to us, they said, with your claims of serious legal error. You agreed to an arbitration. That is, you consented to a process in which conformance to traditional legal principles simply does not matter. You have an award. Short of fraud or corruption, that award, whether erroneous or not, is what you signed up for and what you must live with.

Having in mind this well-recognized body of current opinion, clearly opposed to any expansion whatever in court review of awards, it is no casual matter for one practitioner to presume to present, as it were, the "case" to the contrary. Yet there are, I think, things that can be said without apology. There are questions

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which merit re-asking and re-thinking, and for which the stock answers of the past may no longer carry the same ring of conviction.

I

Let me begin with a brief look at the status of judicial review today. Over thirty states have enacted modern arbitration statutes covering commercial disputes.¹ These statutes make agreements to arbitrate specifically enforceable, provide a summary procedure for the enforcement of awards by the courts, and specify the particular grounds upon which awards may be vacated. The United States Arbitration Act performs substantially the same functions in the case of disputes involving interstate and foreign commerce.²

The grounds for vacating an award are designedly narrow in scope. An award will be vacated if there was, in fact, no agreement to arbitrate in the first place. It will be vacated if it was procured "by corruption, fraud or other undue means," if the "evident partiality" of a neutral arbitrator prejudiced the rights of a party, or if the arbitrators "exceeded their powers"—most notably if they purported to decide an issue the parties had not submitted to them. Theoretically, an award may also be vacated for certain procedural deficiencies—refusal "to postpone the hearing upon sufficient cause being shown therefor," or refusal "to hear evidence material to the controversy" so as "to prejudice substantially the rights of a party." In the absence, however, of one of these express, narrowly circumscribed statutory grounds, the award of a commercial arbitrator is normally unassailable.

This is so, moreover, even though the award is the end result of a series of demonstrable factual and legal errors. In the United States, absent a clear, specific direction to the contrary by the parties, arbitrators have no obligation to decide in accordance with applicable statutory or court-made law; they are free to base their awards upon their own subjective perceptions of reasonableness, fair play and substantial justice. The fact that an award is against the weight of the evidence, or even that it finds no support whatever in the evidence, furnishes no ground for vacating it on appeal.

Parties who resort to arbitration, Learned Hand once said, must

¹ See e.g. Mass. Gen. Laws, c. 251, §§ 1 to 19; Mich. Stat. Ann., Title 27, c. 47, §§ 27.2483 to 27.2505; Maine Rev. Stat., Title 14, c. 706, §§ 5927 to 5949.

² 61 Stat. 669 (1947), 9 U.S.C. §§ 1-14 (1970).

be satisfied with its "informalities." They "must content themselves with looser approximations to the enforcement of their rights than those that the law accords them . . ." ³ A nineteenth century New Jersey judge put the matter more bluntly: an arbitrator, he observed, "may do what no other judge has a right to do; he may intentionally decide contrary to law and still have his judgment stand." ⁴

The explanation is not entirely historical. The English, for example, have clung tenaciously by statute and court decision, to an arbitral system that requires its arbitrators to decide in accordance with law, and which provides mechanisms, in the form of special questions and stated cases put to a court, to help assure that they do.

On this side of the Atlantic the emphasis has been, perhaps, more pragmatic and result-oriented. Arbitration, its protagonists have said, is a substitute, an alternative for litigation, designed to produce a speedy and inexpensive decision. If we were to require our arbitrators to follow the law, if we were to allow our courts to review and protect a party's legal rights, the whole objective of arbitration—speed—would be defeated. Preservation of legal rights is not that important because arbitration is voluntary and consensual. The parties know in advance that they will be leaving their legal rights behind, but they accept this disadvantage, hopefully in the interest of speed, in the interest of getting the matter over with, and moving on. In the early days of the arbitration movement, "Speed, Economy and Justice" became the slogan of the American Arbitration Association, and the first of these was "Speed."

Now, why isn't this rationale perfectly acceptable? Why do the suggestions for an enlargement of judicial review keep resurfacing? Why should there be even the slightest increase in the present scope of review?

In part, I think, an answer to this question would reflect at least three separate but related concerns:

- (1) a concern about the need or desirability, as commercial arbitration enters new and more complex fields, of affording more protection against incompetent or unreasonable action than the present system provides;
- (2) a concern, as arbitration expands and enters these new fields, that many arbitrations involve issues that are not purely private, but which significantly affect third parties and the public

³ *American Almond Products Co. v. Consol. Pecan Sales Co.*, 144 F.2d 448, 451 (2d Cir. 1944).

⁴ *Leslie v. Leslie*, 50 N.J. Eq. 103, 107, 24 Atl. 319, 324 (1892).

- interest—issues as to which it may not be desirable to leave the final say in the hands of private arbitrators; and, finally,
- (3) a concern, as arbitration expands and enters new fields, that we are missing important opportunities to develop, adjust, unify, explain and gain respect for our commercial law within our business community—opportunities that unquestionably are foreclosed to us by a system which remains insulated from the law, which comes very close to nurturing an attitude of disparagement toward the law, and which, in the end, is content to produce a bare *ad hoc* decision, without reasons or explanation, its sole function being that of terminating the one dispute at hand.

II

Commercial arbitration had its origins in the traditional disputes between merchant and buyer concerning quality, weight, measurement, delivery, conformance to sample, and the like. For the most part the typical cases of this type were not large in amount and presented issues of a predominantly factual nature, lending themselves readily to decision by lay people with experience in the field. Often the parties' desire to maintain continuing relationships supported the desirability of a quick, more informal dispute-resolving mechanism without resort to the courts.

If one were to picture a full spectrum of potential commercial arbitration cases, ranging from those least requiring judicial review at one end to those for which review would appear to be near-imperative at the other, these quality-quantity-sample cases would fall near or at the no-review end. This would particularly be true in those instances when the parties submitted the dispute to arbitration after the dispute arose—knowing the issue in contention, knowing the amount at stake, knowing the arbitrator.

In the last quarter century, however, commercial arbitration has slowly moved down the spectrum line toward those categories of cases as to which it becomes, in the eyes of many, more difficult to dismiss a meaningful judicial review as unnecessary and counter-productive. This expanded area of operations includes cases involving licensing agreements, employment contracts, stockholder disputes, leases, long term supply contracts, construction contracts, purchase and sale agreements for businesses, partnerships, agency and brokerage agreements, franchise arrangements, distributorships, and so on. Often the amounts at stake are of critical importance to one party or the other, and the central issues on which the decision turns are substantially legal in nature: the correct interpretation of the contract; whether a party's actions did or did not

constitute performance of its contract obligations; or whether the contract was in some respect invalid or unenforceable. Often too, arbitration in these cases has not resulted from an agreement to arbitrate an existing dispute, but from the automatic application of a standard form "future disputes clause" mandating arbitration as the means for deciding any and all future controversies arising out of or relating to the contract.

As commercial arbitration steps off in these newer directions, there is reason to ask ourselves whether some reassessment is not due of the relative values we have heretofore placed on the old trilogy of speed, economy and justice. Speed is desirable, certainly, but within limits. It is also important to ask whether commercial arbitration in this context, without meaningful judicial review, can be counted on to provide correct and just results, and not merely conclusions. Does it, without judicial review, offer the reasonable safeguards against incompetent and intemperate action that parties have a right to expect? Many of us, I think, are not at all sure that it does.

Without judicial review, the risks inherent in the commercial arbitration of an important matter are an unacceptable price to pay for the anticipated quicker results. I am speaking now, I should add, primarily about commercial arbitrations generated by the use of the so-called "future disputes" clause—for example, the familiar commitment that any controversy or claim that may arise out of or relating to the contract shall be decided by arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association. One must place one's fate as to some unknown future issue in the lap of some unknown person, an arbitrator, who may or may not be a person one would choose oneself (depending upon how the list selection process works out), who may or may not have any significant degree of useful expertise (depending for one thing, upon how carefully the local AAA office has scrutinized the qualifications of its panel members), and who almost certainly will *not* have extensive experience in the impartial judging of complicated disputes.

This person will not have to observe substantive rules of law. He, instead, is free to use his subjective notions of justice and fairness—whatever they may prove to be. He is not limited to the remedies that the law allows; he may fashion his own. He is under no duty to explain his decision in any way. He need make no findings of fact, nor even the briefest statement of reasons. Finally, and most importantly, there is no second person looking over his

shoulder. His decision on the merits—erroneous though it may be—stands unchecked, essentially unreviewable. In the absence of fraud or corruption, what this person gives you is what you get.

In the light of these facts, I think that a case can be made for the proposition that some degree of increased judicial review would be desirable. The risk potential for erroneous and unjust decisions is high, where, as here, a commercial arbitrator's decisions are effectively insulated from all scrutiny. This risk increases, moreover, as commercial arbitration makes its way into the more complicated factual and legal areas of business controversy. It may be time to deflate that risk somewhat, even though there may be, to some degree, a loss of speed.

One other point deserves mention. In any discussion of arbitration, the ultimate justification for the deficiencies of the arbitration process lies in the fact that it is, after all, the product of a voluntary agreement. That is what the parties wanted. Admittedly it is a drastic step to relinquish in advance one's legal rights in connection with a contract. If this is what two business people want to do, however, in the interest of speed and economy, why should we concern ourselves about such matters as competence, legal and factual error, and judicial review?

The point has force. Yet one cannot help but wonder, as the boiler plate standard "future disputes" arbitration clauses cross one's desk, how many of them are truly voluntary, and how many simply represent the products of a disparity of bargaining power enjoyed by one party.

Justice Arthur Goldberg highlighted this problem in an article in the *Arbitration Journal* over ten years ago:

"Voluntary arbitration (he said) must be voluntary in a real and genuine sense. There can be little concern that it is genuinely voluntary when arbitration is agreed upon in collective bargaining between unions and employers possessing an equality, more or less, of bargaining power. The same is true of commercial arbitrations between business concerns which enter into arbitration agreements knowingly and advisedly. The situation may be different, however, where an arbitration clause appears as "boilerplate" in an installment sales contract, a lease or other document where bargaining power may be unequal."⁵

Obviously, in those instances in which one party has been pressed to accept a "future disputes" arbitration clause on a "take-it-or-leave-it" basis, the voluntary nature of the agreement is super-

⁵ A. Goldberg, "A Supreme Court Judge Looks at Arbitration," 20 *Arb. J.* 13, 16 (1965).

ficial at best, and a rule of law that wipes out that party's legal rights, and closes the doors to the courts, is disquieting to say the least. Isn't it conceivable, therefore, that some increased measure of judicial review could perform a helpful role in alleviating this problem?

Unless the protection afforded by significant judicial review is made available, there is some reason, it seems to me, to question whether commercial arbitration will realize its potential and receive the widespread acceptance it seeks in the newer areas we have discussed. Many lawyers, I suspect, will simply not buy it.

In Massachusetts, for example, in recent years, we have witnessed the near-collapse of our civil court system. Court case loads have exploded to unprecedented levels and the waiting times for some civil trials have approached five years. If speed of decision alone were the decisive factor, certainly one would have expected to see a very substantial transmigration of cases away from the courts and into the commercial arbitration process. Yet that does not appear to have happened.

In the Boston office of the American Arbitration Association there were 212 commercial arbitration cases entered in 1974 and 236 in 1975. For each year, however, approximately 80% of the total consisted of construction contract cases, generated by the AIA's standard form contracts. Of the remaining 45 or so cases, approximately 10 to 15 were domestic relations cases (included for administrative reasons in the "commercial" category), and the balance of approximately 30 contained a scattering of cases relating to leases, purchase and sale agreements, stock disputes and publishing contracts.

On the other hand, in 1975 the United States District Court for the District of Massachusetts received 580 new entries in the commercial categories of contracts, real property, copyright, trademark, patents, and antitrust.

And for the fiscal year ending June 30, 1975 there were 8,156 civil cases entered in the state Superior Court for one Massachusetts county alone, Suffolk, of which about 45%—or approximately 3,500—were contract cases. For the same fiscal year there was a total of 32,247 civil cases entered in the Superior Courts for *all* counties. Assuming the Suffolk percentage of close to 45% for contract cases is reasonably accurate for the other counties as well, it means that for the year ending June 30, 1975 there were approximately 14,150 new contract cases entered in the Superior Court for the Commonwealth of Massachusetts.

If commercial arbitration is going to make significant inroads on the totality of these commercial cases—and I hope that it does—it may be that some increase in the protection afforded by judicial review will be the condition precedent for that advance.

III

Up to this point, we have been considering the desirability of expanding judicial review of arbitration awards as a method of dealing with a concern about the need for additional protection for the litigants against unreasonable or incompetent action by arbitrators. Let us now turn briefly to consider a second subject: whether the present system, with its severely restricted scope of judicial review, adequately protects, not the litigants, but the interests of third parties, the public interest. There is reason to believe that it does not, and that expanded judicial review is needed for precisely this purpose.

In the last ten or fifteen years our federal and state courts have joined in handing down a series of decisions which have excluded from commercial arbitration, for reasons of public policy, a substantial number of types of business disputes even though they have in each case clearly come within the terms of a broad arbitration clause. The list includes, for example, antitrust controversies, under both federal and state statutes, securities act violations, patent infringement claims, bankruptcy-related issues, price control act questions and usury statute claims.⁶

The reasoning underlying these rulings of non-arbitrability has been best expressed by the New York Court of Appeals in *Aimcee Wholesale Corporation v. Tomar Products, Inc.*⁷

In this case, the New York court held that commercial arbitration was “not a proper mechanism,” not a “fit instrument,” for determining a price discrimination claim under the Donnelly Act, a state antitrust statute. The court began, as a first step, by cataloging the characteristics of the arbitration process which make it susceptible to legally erroneous and inconsistent results:

⁶ See e.g. *Aimcee Wholesale Corp. v. Tomar Products, Inc.*, 21 N.Y.2d 621, 237 N.E. 2d 223 (1968); *American Safety Equipment Corp. v. J.P. Maguire & Co.*, 391 F.2d 821 (2d Cir. 1968); *A & E Plastik Pak Co., Inc. v. Monsanto Company*, 396 F.2d 710 (9th Cir. 1968); *Power Replacements, Inc. v. Air Preheater Co., Inc.*, 426 F.2d 980 (9th Cir. 1970); *Johnson v. England*, 356 F.2d 44, 51-52, (9th Cir. 1965) cert. denied, 384 U.S. 961 (1966); *Kingswood Management Corp. v. Salzman*, 272 App. Div. 328, 70 N.Y.S.2d 692 (1947); *Leesona Corp. v. Cotwool Manuf. Corp.*, 204 F. Supp. 141, 143 (W.D.S.C. 1962).

⁷ 21 N.Y. 2d 621, 237 N.E. 2d 223 (1968).

"Arbitrators are not bound by rules of law and their decisions are essentially final. Certainly the awards may not be set aside for misapplication of the law . . . more important, arbitrators are not obliged to give reasons for their rulings or awards. Thus our courts may be called upon to enforce arbitration awards which are directly at variance with statutory law and judicial decision interpreting that law. Furthermore, there is no way to assure consistency of interpretation or application. The same conduct could be condemned or condoned by different arbitrators."

The court then stressed the fact that the issue which commercial arbitrators were being called upon to decide, "transcends the private interests of the parties":

"If the arbitrators here should decide wrongly that the goods were or were not defective, the injustice done is essentially only to the parties concerned. If, however, they should proceed to decide erroneously that there was or was not a violation of the Donnelly Act, the injury extends to the people of the State as a whole."

Finally, in step three, the court concluded that because an erroneous arbitrator's decision could have an adverse effect on third parties, with the courts being powerless to correct the situation, it was necessary to hold the antitrust claim non-arbitrable:

"It is not simply that arbitrators can impose unnecessarily restrictive or lenient standards. The evil is that if the enforcement of antitrust policies is left in the hands of arbitrators, erroneous decisions will have adverse consequences for the public in general, and the guardians of the public interest, the courts, will have no say in the results reached." (emphasis added)

Others in this seminar either have analyzed or will analyze more fully the implications of *Aimcee* and its companion public policy decisions. For purposes of the present discussion, however, concerning the desirability or undesirability of enlarging the scope of judicial review, two brief comments about *Aimcee* come to mind.

First, if the commercial arbitration process is ever going to be able to regain the ability to handle antitrust, securities act, patent infringement and like issues—and if, moreover, it is going to be able to *retain* the ability to consider and dispose of many, many other types of business controversies involving the interpretation and application of literally scores of federal and state statutes embodying public policies of one sort or another—then isn't it the lesson of *Aimcee* and its companions that at the very least the "guardians of the public interest, the courts" must be given a meaningful supervisory role? Indeed, expanding judicial review might well be *essential* if commercial arbitration is to attain a substantial dispute-resolving role in a business world in which so

many commercial controversies involve one federal or state statute or another.

Second, much of what the *Aimcee* court had to say about the need to protect the interests of third parties, by means of the courts, applies with almost equal force to other kinds of commercial arbitrations, arbitrations which do not involve the interpretation or application of any federal or state statute embodying public policy, but which will, nevertheless, have a significant and possibly adverse effect upon the interests of unrepresented third parties.

For example, assume a five year, fixed price residual oil supply contract between a large Massachusetts electric power company and a foreign oil company. The contract contains a standard "future disputes" arbitration clause. After two years of the contract period have elapsed, the OPEC nations drastically increase their government take. The oil company, strapped by a fixed price, resorts to arbitration, seeking rescission of the contract on the grounds of *force majeure* and impossibility.

The arithmetic is such that if the arbitrators elect to relieve the oil company of its contractual obligations, the power company will be compelled to pay a far higher price for oil, and the necessary effect of this will be a significant rate rise for many thousands of people in eastern Massachusetts. This dispute does not involve a claim under a state or federal statute. Yet the decision obviously transcends the private interests of the parties and, here too, without some provision for meaningful judicial review, the "guardians of the public interest, the courts" will have no "say" in the matter.

There must surely be many other examples of commercial arbitration situations in which the public interest is seriously involved, in one way or another—and yet with nothing more than the token judicial review now available, that public interest remains effectively unrepresented and unprotected.

IV

We have considered the desirability of enlarging court review of arbitration awards as a consequence of, first, concern for the interests of the litigating parties, and, second, concern for the public interest. There remains a third concern, a concern that without some increased measure of judicial review we will be denying ourselves important opportunities to develop, adjust and unify our commercial law, and to explain it and gain respect for it within our business community.

Our present commercial arbitration procedure is often described by the Latin phrase "*ad hoc*"—"to or for this," "for this only." Since most awards are not accompanied by reasons or findings, and need not be in accordance with substantive law in any event, they have no guidance value as a precedent for other cases. A typical American commercial arbitration award fulfills one restricted function only: it disposes of "this particular matter."

Often the literature promoting commercial arbitration obliquely disparages the law, trumpeting arbitration's freedom from what it terms the law's technicalities and urging businessmen to permit an arbitrator to arrive quickly at "true equity" and "substantial justice". Often too, the furnishing of any opinion or statement of reasons with the award is explicitly frowned upon. In the American Arbitration Association's Manual for Commercial Arbitrators, for example, prospective arbitrators are instructed *not* to provide any statement of reasons, because even the slightest explanation of the rationale for the decision might assist one party to vacate the award.

If meaningful court review of arbitration awards were to be provided—not necessarily for *all* awards, but perhaps in connection with certain types of contracts or certain types of issues—it might well be possible to reap valuable advantages from our arbitration system that are now foreclosed to us. Arbitration decisions in accord with our commercial law, together with reasons explaining them, could in time provide a body of precedents with distinctly beneficial side-effects.

1. First, such a system would help immensely in educating our business community with respect to the law and in explaining its principles. It would help to build, not undercut, the business community's respect for the law and its objectives. As long ago as 1934 Professor Phillips of the Harvard Law School put his finger on the problem:

"Business, disgusted with the procedural defects of our law, and even more so with jury determination of complicated facts of modern trade, attaches the same stigma to our substantive law, and, it is submitted, wrongfully. Our courts are not going to improve if all important business litigation is taken away from them, because businessmen fear our legal procedure. Much more preferable would be an effort on their part to try and improve it. In the partnership between business and the government, the law plays a tremendous role."⁸

2. Awards based on law, and accompanied by reasons, will serve as

⁸ P.G. Phillips, "Rules of Law or Laissez-Faire for Commercial Arbitration," 47 Harv. L. Rev. 590, 601 (1934).

helpful precedents for the future. In Phillips' words, "... how can we build up a unified system of commercial law and practice . . ." unless reasoned awards based on law are used? "Without them," he states, "we have a hodgepodge of nothingness, and business is not helped nor arbitration aided by the mistakes or wisdom of others."⁹ At the present time, he points out, all we have is the "unascertainable, unpredictable, unappealable will of individual arbitrators."¹⁰

But the value of precedents does not lie solely in the predictability and certainty that result. Use of precedents also satisfies basic human notions of fairness. In 1960, in a broadcast to foreign audiences explaining the American judicial system, Professor John Dawson underscored the importance of this point:

"Surely Americans are not different from other human beings in wanting and expecting continuity and consistency in decisions, no matter who may make them. It is confusing and apt to seem unjust for the same problem to be decided in different ways merely because the decisions are made at different times or between different people. For the persons affected by decisions, consistency is an important virtue, not only because it permits prediction but because it seems more fair."¹¹

Use of precedent, he concluded, is only partly a product of history. It "rests on a basic notion of fairness—that like cases should be decided alike."

The present *ad hoc* procedure of commercial arbitration—without reasoned precedents, without significant court review—is incapable of fulfilling these needs.

3. Third, commercial arbitration proceedings, directly involving business people in the decisional process, and culminating in awards pursuant to law, accompanied by reasons, and subject to judicial review, might in time constitute a unique mechanism for adjusting commercial law to the current needs and customs of business. This kind of interchange is foreclosed at the present time, because commercial arbitration holds itself out as being insulated and apart from the law.

V

Nevertheless, despite the advantages it could bring, few would seriously argue that expanded judicial review should be superim-

⁹ *Id.* at 606.

¹⁰ *Id.* at 618.

¹¹ J.P. Dawson, "The Functions of the Judge," in "Talks on American Law," edited by H.J. Berman (1961) p. 21.

posed across the board upon all types of arbitrations. The partisans of arbitration are at least right in insisting that there is value, for certain kinds of traditional commercial disputes, in preserving an option which permits the parties to choose a speedier, more informal dispute-resolving mechanism, separate and apart from the courts. The difficulty lies in marking the line between these kinds of disputes and others—more complicated in factual or legal context, more involved with interests of third persons, usually larger in dollar amount—in which the desirability of judicial review becomes more pronounced.

One way to begin the process of providing broader judicial review would be to make it available, at the very least, to those who wish it. The "option" rationale, after all, should be valid both ways. If both parties prefer to have an award that is subject to ordinary standards of judicial review, there would appear to be little reason to deny them this choice.

The combination of an arbitration hearing plus broader court review would present an attractive alternative for many business disputants. The hearing itself would occur long before a trial could be obtained in court; one or more of the arbitrators might well be able to contribute some measure of helpful expertise; broader judicial review would offer protection against incompetent or bizarre decision-making (and would also serve to protect the public interest); and, finally, even with broader review, the entire process could be concluded far more quickly than would be the case if the matter were processed in its entirety in the courts. Nor would the broader review burden the courts with an added case load. Quite the contrary. Commercial cases that would otherwise unquestionably be tried in court would be tried, instead, before arbitrators.

To accomplish this, a subparagraph could be added to Section 10 of the United States Arbitration Act, the section which recites the available grounds for vacating an award (9 U.S.C. § 10).¹² In substance, this amendment would enable a court to vacate an award whenever (1) the parties have agreed that the award shall be in accordance with law, and (2) the substantial rights of a party may have been prejudiced because the award was, (a) based upon an error of law, (b) unsupported by substantial evidence or (c) arbitrary, capricious or otherwise not in accordance with law.¹³

¹² Or, correspondingly, to Section 12 of the Uniform Arbitration Act for Commercial Disputes.

¹³ Even in the absence of such an amendment, it may be possible to make legal error a means for vacating an award pursuant to the present wording of Section

In short, a standard for review similar to that used in the Administrative Procedure Act could be employed. The arbitrators would have a reasonable amount of leeway in their fact findings, but protection would be afforded against prejudicial legal error. Supplementary provisions could require, as a condition precedent for this broader review, that a lawyer be a member of the arbitration panel, that a transcript of testimony be kept, and that the award be accompanied by a statement of reasons.

A limited proposal of this type would have the advantages of flexibility and moderation. It would extend the benefits of broader judicial review only to those who wish to have them. It would not impose such review, however, on others who do not. If commercial arbitration is to gain the widespread acceptance its adherents seek, it should be willing to experiment at least to this limited extent. It cannot afford to remain rooted any longer in the outmoded position that meaningful court review of awards is, under any and all circumstances, detrimental to arbitration's goals.

Present day *ad hoc* commercial arbitration, without legal standards, and without effective judicial review, falls short of commercial arbitration's potential. In the last analysis, one is left with an uneasy premonition that too much is being sacrificed for the sake of merely getting rid of the cases. What we are condoning comes very close to a "plea bargaining approach" to the resolution of business disputes—i.e., the important thing is to dispose; it is less important how. Expanding the judicial review of awards, within the limits suggested here, could serve as a helpful first step in the corrective process.

10. The arbitration agreement could include an express requirement that the arbitrators decide "according to law." It could also state that this requirement is not merely directory, but constitutes a limitation of the powers of the arbitrators. Finally, it could expressly provide that the arbitrators themselves are not to be the ultimate judges of whether the award is or is not in accordance with the law; instead, this issue is to be subject to review by the courts in accordance with Section 10(d) of the Act ("... the United States court . . . may make an order vacating the award . . . (d) where the arbitrators exceeded their powers . . ."). There are a few older decisions, antedating the United States Arbitration Act, which suggest this approach. See, e.g., *White Star Mining Co. v. Hultberg*, 220 Ill. 578, 77 N.E. 327 (1906); *Bartlett v. L. Bartlett & Son Co.*, 116 Wis. 450, 93 N.W. 473 (1903); *Boston Water Power Co. v. Gray*, 6 Metc. (Mass.) 131, 166 (1843); *Greenough v. Nolle*, 4 N.H. 357 (1828); *Prescott v. Fellows*, 41 N.H. 9, 77 Am. Dec. 752 (1860). And see Sturges, *Commercial Arbitrations and Awards*, 793-795 (1930). However, it is not clear that a modern court, predisposed in favor of restricting the scope of review, would acquiesce. A statutory amendment would settle the question. It would also serve to put more contracting parties on notice that this ground for vacating an award, i.e., legal error, is available if the parties wish to make use of it.

The Case for the Status Quo

GERALD AKSEN*

I will try to share with you this morning some comments on the program agenda and perhaps some others that may be of general interest. The assigned topic was court review of arbitration awards, and the title given to me was "The Case for the Status Quo". If ever you want to put somebody on the defensive, you assign them the title "The Case for the Status Quo". While I feel compelled to stick to the topic as much as I can, by the same token, using the prerogative of the chair, I would like to depart slightly for a moment to share with you some comments that are relevant to our overall theme.

I believe the theme of your meeting here today is quite timely. It is something that has been discussed in other parts of the world because we are in a heavy bidding competition for doing work abroad.

About a month ago I was in Vienna at a meeting of approximately 250 international lawyers. The subject of that three-day conference was Arbitration and Transfer of Patents, Trademark, Copyright, Know-How and Similar Rights. Attending this meeting were lawyers from every part of the world, including the Eastern-bloc countries and China. I was quite interested to hear the participants discuss the same topic we are dealing with here; the

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use of a private dispute settlement mechanism to resolve technical, complicated, long-range problems involving transfer of technology. What impressed me most was the similarity in approach in dealing with these questions.

It is difficult to summarize the theme of all the papers that were presented, but they have been published. For those of you who are interested in the presentations from various parts of the world and the possibility of arbitrating patent-type disputes, we have all the papers in English in our library at the AAA.

Basically, the reported consensus from other countries was that everything is arbitrable abroad except patent infringement and validity questions. This seems to be similar to the American rule of law on arbitrating patent and copyright type questions. On the other hand, if one asks the Chinese how they resolve validity and infringement questions, they will tell you that they have no problems in that area. When you probe further, you find out that they have no courts that could be approached. When one attempts to find out how they deal with technology or asks what patents they have, the conversation becomes quite vague. However, when one deals with the many other industrialized countries, one gets the feeling that there is a keen interest in dispute settlement over patents, trademarks and copyrights. At the meetings I attended, what was of significant interest was the description of the kinds of disputes handled by international arbitration, the known advantages of employing arbitral clauses and the difference it can make in competitive bidding.

The representative from the International Chamber of Commerce reported that "industrial property" disputes cover a considerable part of those international claims heard by the ICC. Thus, 29% of its yearly caseload for the past three years concerns disputes arising from supply of industrial plants and public works.

International agreements tend generally to include private dispute settlement clauses for a number of reasons. Traditionally, trade agreements called for arbitration to avoid the uncertainties and complexities of foreign litigation, to save time and money, and to make decisions based on international custom and usage rather than domestic law. Now, in addition, it appears that increased trade with unknown markets has heightened interest in arbitration. For example, U.S. agreements with Comecon bloc countries, Middle East companies and China pose new challenges. How does one agree to resolve contract disputes with foreign trade organizations, private companies or quasi-government entities where the

local commercial laws are vague or non-existent? Arbitration is often the contractually agreed upon answer. Some trade experts even claim that future dispute arbitration clauses can result in lower costs and more competitive prices. The contingent liability of appearing in a foreign court can significantly increase the price, for example, of a "performance bond" that a bidder would have to include to construct a plant in a foreign country. Referring claims to independent neutral arbitrations in neutral countries can reduce such costs. Insurers can assure that international business customs and commercial standards will govern the proceeding rather than fearing unknown interpretations from, let us say, some Middle Eastern countries.

I know of one particular contract for 150 million dollars for the building and installation of a plant in Saudi Arabia. I don't know how much technology went into it, but the point is that an American designed it, American engineers engineered it, and an American contractor is building it. With sums that large, I think that a dispute settlement mechanism is extremely important.

I also find that we are quite naive in this country when it comes to alternative methods of dispute settlement because we are trained as lawyers to think only in terms of the courthouse. I think this is unfortunate. If you survey the catalogues of law schools in the United States, you will find only 20 law schools that have a course called either Arbitration, Private Dispute Settlement or Other Ways of Settling Disputes. Of these 20, very few of them are the major law schools. Because of this, American lawyers may be locked into our previous training, and we tend to start with a prejudice against anything that is not resolved in a courthouse. Many think that the judge is the only person that can decide any case fairly, legally, honestly, etc. I think that is a particular misconception in the field of technological problems. On the other hand, one could say we have gotten away from the usual courthouse fixation, because we do have a patents tribunal, and now under the new legislation that was just passed a few weeks ago, we also have a copyright tribunal. Congress is beginning to recognize that the court is not necessarily the best place to resolve all kinds of disputes.

Other countries of the world don't use their courts the way we do. For example, I just spent about two years as part of an AAA team negotiating an arbitration arrangement with the Russians in Stockholm, Sweden. All U.S.-Russian trade disputes will be arbitrated in Stockholm. You will recall, the United States Government negotiated an East-West Trade Agreement with Russia in 1972

that provides that any disputes between two private parties will be arbitrated and that they will be arbitrated abroad in a third neutral country. Although the Trade Agreement never officially came into force, its basic terms have provided a framework for private arrangements.

Thus, the American Arbitration Association, the USSR Chamber of Commerce and Industry and the Stockholm Chamber of Commerce agreed to make available new arrangements for arbitration of contract disputes which may arise between American corporations and Soviet foreign trade organizations. Documents establishing the new arrangements were exchanged in ceremonies at the headquarters of the American Arbitration Association in New York. The three organizations which took part in the ceremonies are the principal arbitration institutions in their respective countries.

The main feature of the new arrangement is a model arbitration clause which corporations in the United States and Soviet foreign trade organizations may choose to include in their contracts. Known as the "Optional Clause for Use in Contracts in USA-USSR Trade—1977", it provides for arbitration to take place in Sweden, with the Stockholm Chamber of Commerce having the authority to appoint the presiding arbitrator from a panel which has been jointly established by the American Arbitration Association and the USSR Chamber of Commerce and Industry. The panel members are lawyers and judges from a number of different countries other than the USA or USSR.

A major innovation in the clause is that arbitrations will be conducted under the new arbitration rules of the United Nations Commission on International Trade Law. This is the first international arrangement to include these new rules, which were developed by experts from many nations and were recommended by the UN General Assembly for use in world trade.

I think that we have reached a point in time when our courthouses can no longer accept the load. When the Chief Justice of the United States starts recommending taking cases out of court, the message should be clear. Lawyers will have to devise other methods of resolving disputes. One possibility is arbitration. Arbitration is not very old in this country; it really started in 1920 when the first modern statute was passed in New York State. Today only 36 of our 50 states have modern arbitration statutes. The common law that others operate under is and has always been that an agreement to arbitrate is revocable at the will of either party and at any time prior to the rendition of the award.

In 1926, Congress enacted the United States Arbitration Act, Title 9 of the U.S. Code. I think that is where the current law really begins. As you all know today, federal law is preempting state law wherever any element of interstate commerce can be found.

Section 10 of Title 9 contains ten specific statutory grounds for reviewing an arbitration award. In addition to those ten grounds, court decisions have come down with several other means by which you may seek review of an award. My basic theme today is not only that we should maintain the Status Quo, but, if anything, that we have too many grounds for judicial review of arbitration awards and should eliminate some of them. At common law, an arbitration award could only be reviewed for corruption, fraud or gross mistake. At no time could an arbitration award be reviewed for a mistake of fact or a mistake of law, either under the common law or under the federal statute. There are more than ample grounds for review today, so that there is absolutely no impediment to going to court to vacate an arbitration award.

The United States Arbitration Act delineates the following ten grounds under which a court may vacate the award when either party applies:

1. Corruption in the award.
2. Fraud in the award.
3. An award rendered by undue means.
4. Evident partiality in the arbitrators.
5. Corruption in the arbitrators.
6. Misconduct of the arbitrator in refusing to postpone the hearing.
7. Misconduct of the arbitrator in refusing to hear pertinent or material evidence.
8. Any misbehavior of the arbitrator which prejudices the rights of any party.
9. Where the arbitrators exceed their powers.
10. Where the arbitrators so imperfectly execute their powers that a mutual final and definite award upon the subject matter submitted was not made.

The first three grounds of corruption, fraud or undue means were undoubtedly a codification of the common law, familiar grounds upon which an award could be set aside. The seven additional bases, however, appear to be new and, in my view, offer substantial and sufficient safeguards to a losing party to an arbitral award.

Take for example, the ground for review where there is "evident partiality" on the part of the arbitrator. The word "partiality" seems to indicate that the arbitrator favored one side over the other, was

related to one of the parties, had a personal or financial interest, or perhaps was biased in terms of having decided before the case was heard. The United States Supreme Court has expanded evident partiality, though, to include failure to disclose a prior business relationship. In *Commonwealth Coatings v. Continental Casualty*,¹ there was a technological dispute arbitrated in Puerto Rico. Three arbitrators were appointed, one by each of the parties and a third who was the dean of the engineering school of Puerto Rico. A unanimous award came down in favor of one of the parties. The losing party sought to vacate the award in court on the grounds that the neutral arbitrator was also a member of an engineering consulting firm, and that particular firm, during the previous period of four or five years, had done some twelve thousand dollars worth of consulting for one of the parties to the arbitration. The dean had not disclosed that his firm had done that consulting work. The Court held that the mere failure to disclose that previous business relationship was in itself "evident partiality" under the Federal Arbitration Act and sufficient to allow the court to vacate the award, even though no allegation was made that the arbitrator was guilty of fraud or bias, nor was reason given to suspect him of any improper motives. Thus, evident partiality is given a very broad scope in its definitional terms.

Another ground listed in the statute is corruption of the arbitrators. It is interesting that the AAA now administers about 44,000 cases a year throughout the United States, and in a 50-year history has never had a challenge to an arbitration award based upon corruption of the arbitrators. Nor has research disclosed any case interpreting the phrase "corruption" in the statute.

Another statutory ground is misconduct for certain specified reasons on the part of the arbitrator. It is really almost a misnomer, a kind of a catch phrase the courts use anytime they just don't like an award. In describing it to my classes at law school, I speak in terms of due process, although the statute does not use the words due process. I find upon reading the cases where awards are vacated, that anytime a court feels uneasy, for example, if one party didn't get notice of a hearing, or the arbitrators refused to hear material or relevant evidence, the court will vacate the award based upon such misconduct of the arbitrator. In addition, the statute states specifically that refusing to postpone hearings is also misconduct.

The real reason seems to be that it offends our notions of due

¹ 89 S. Ct. 337 (1968).

process for an arbitrator not to postpone upon a good cause request, to refuse to hear certain evidence or not to give notice of the hearing. The statute also includes the "catchall" phrase "misbehavior by which the rights of any party have been prejudiced." In other words, the statutory grounds are so broad that if one can come up with any reason why a party has been prejudiced by lack of due process, or irregularity of proceedings, the award can be set aside.

The statute has another marvelous phrase; one can judicially review and vacate the award if the arbitrators "exceeded their powers." This is where losing parties can attack the award for mistakes of law and mistakes of fact without any difficulty whatsoever. If it can be shown to a court that an arbitrator intentionally misapplied the law, intentionally avoided the law, or decided a case upon improper facts, the courts will set aside the award. The First Circuit in Massachusetts,² only about two years ago, established a new theory of vacating arbitration awards. The court held that when a fact that was presented to the arbitrator is a "non-fact," the award will be set aside. The attorneys in arguing the case to the arbitrators had apparently both unintentionally presented the wrong set of facts to the arbitrator. The arbitrator decided the case based on the set of facts that was presented to him. It was later discovered that this set of facts was not correct, and the court had no difficulty setting aside the award because the arbitrator "exceeded his powers."

In another case some years ago, two companies, Botany Industries and Swift Industries, completed a merger acquisition deal wherein the seller had promised and represented that there was no tax liability due or owing the federal government. In fact, that was accurate. Sometime after the transaction took place, the Internal Revenue appeared and indicated that there was a six million dollar tax due from the seller. At the time of the transaction, there was no such liability. The buyer felt this to be a material representation of the terms of the sale, and tried to rescind the purchase transaction for fraudulent misrepresentation. There was much litigation over whether this would go to arbitration or to court. As you know and as you probably heard in other talks, in 1967 the U.S. Supreme Court³ held that a fraudulent misrepresentation is an arbitrable issue as long as the parties have clearly evidenced an intent to arbitrate that question in their contract. Thus, there was no difficulty in having the court decide that the issue would be heard by arbitrators.

² *Electronics Corp. v. I.U. of E.R. & M.W.L.*, 492 F.2d 1255 (1st Cir. 1974).

³ *Prima Paint v. Flood & Conklin*, 388 U.S. 395 (1967).

Having gone to arbitration, the facts presented to the arbitrator indicated that while the government did come in with a "six million dollar tax lien," it was hardly likely that the audited amount would be anything close to that sum. During the arbitration, however, there was no accurate way of assessing what the final tax deficiency would be. The arbitrator rendered an innovative award including a finding of transferor liability for tax deficiencies and directed the transferor to post a six million dollar bond as a form of remedy in the event of any breach. The federal court vacated the award because the bond was in excess of arbitral authority. On appeal, the Circuit Court affirmed, indicating that an award must "draw its essence from the agreement," and as the demand for arbitration did not include a request for such relief it was improper.⁴

Thus, in terms of having ample grounds for judicial review, it is my contention that these ten statutory grounds of corruption, fraud, undue means, evident partiality, corruption in the arbitrators, misconduct in refusing to hear either pertinent or material evidence, refusing to grant postponements, or any other kind of misbehavior, exceeding of arbitrators' powers, and imperfectly executing awards are more than enough to give all the review that is needed. But, in addition, court decisions have found other grounds upon which one may seek to vacate an award. One of them is "manifest disregard of the law."

Where a court finds that an arbitrator has issued an award in manifest disregard of the law, it will set it aside. In order to have an award vacated on this ground, the complaining party must establish that the arbitrator understood and correctly stated the law, but proceeded to ignore it. The phrase itself comes from a decision of the United States Supreme Court,⁵ and has always been presumed to mean that it must be something beyond and different from a mere error in law or failure on the part of the arbitrators to understand or apply the law.

Finally, courts have added another judicial ground for vacating an award, and that is if it lacks "fundamental or complete rationality." Thus, in a recent case where arbitration was commenced under the terms of a partnership agreement seeking dissolution and distribution and the award took into account unequal capital contribution despite a provision in the contract providing for equal distribution, a court confirmed the award. While the arbitrators are

⁴ *Swift v. Botany*, 466 F.2d 1125 (3d Cir. 1972).

⁵ *Wilko v. Swan*, 346 U.S. 427 (1957).

required to interpret and apply the partnership agreement, they are not bound by the substantive law or formal rules of evidence. Hence, in finding a just solution, they may consider such factors as unequal capital contribution, whether the agreement is ambiguous or not. In such a case, the court held that the arbitrators did not exceed their authority despite the fact that there was no ambiguity in the written agreement, and found insufficient grounds to vacate the award. As the court stated, "as the award did not exhibit complete irrationality" it would be confirmed since the arbitrators are permitted to "do justice." However, the court made clear that had the award lacked "fundamental rationality" it would have been set aside.⁶

Thus, it appears that there are at least an even dozen ways to obtain judicial review of arbitral awards in the courts. I personally would hope there is no further expanded review of awards, not even to the extent of allowing a "baker's dozen."

⁶ *Lentine v. Fundaro*, 29 N.Y. 2d 382 (1972).

Pacific Industrial Property Association: Non-Binding Conciliation Between Japanese And American Companies

PAULINE NEWMAN*

The Pacific Industrial Property Association (PIPA) has studied the arbitration and conciliation procedures applicable to industrial property disputes between Japanese and Americans, and has sponsored a new conciliation procedure, while suggesting that existing arbitration procedures be modified in accordance with the recommendations of certain authorities in this specialized field:

The proposed conciliation procedure of the Pacific Industrial Property Association appears to be the only formalized conciliation, or for that matter arbitration, procedure specific to industrial property issues. The procedure was developed to meet a perceived need in this complex segment of Japanese/American business relations, relating to patents, trademarks, know-how, and their licensing and exchange:

International communication is difficult in the best of circumstances. Communication between disputants at least one of whom feels wronged, having language and cultural barriers, and involving complex technical and legal issues, is indeed difficult. The member-

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ship of PIPA sought a method of opening this communication barrier between Japanese and Americans, in the fields of business interaction involving high technology and industrial property.

The philosophy of conciliation, at least in the context of Japanese/American relations, is different from the philosophy of either arbitration or litigation. It is the philosophy of compromise. It accepts all the classical reasons favoring arbitration over litigation: the complexity of high-technology subject matter, the commitment of the parties in capital and other investment, the inequity of injunction, the inadequacy of money damages, the high cost and time of litigation—and then it shifts: from an arbitrator who acts as judge and whose decision is binding, to a mediator who acts as guide and participant and who helps the parties to work out their differences voluntarily.

One generally assumes that, before resorting to either arbitration or litigation, the parties will have attempted to settle their own differences. In most cases compromises will already have been considered and will have failed. In most cases, parties to a contract containing an arbitration clause would normally, without formality, have talked things over before either party invoked the arbitration clause.

Why then would parties to a patent license want a “conciliation” clause in the contract? The PIPA membership decided that it could be helpful to provide a semi-formal method of bridging the communications gap between Japanese and Americans, as an aid to people who probably would want to bridge that gap—or at least to people who in advance know that should a dispute arise they may encounter communications problems to compound any other problems over the life of a contract.

This was a natural for the Pacific Industrial Property Association. PIPA was formed eight years ago by representatives of Japanese and American industry, usually through their chief patent or licensing officer, most of whom had frequent business dealings with the other country and were already devoting time to studying the industrial property practices of the other country. Perhaps the American and Japanese representatives were also feeling the effects of inadequate or incomplete advice on industrial property matters, frustrations with the Patent Offices and practices of the other country, and the evolution of increased complexity in the relationships between Japanese and American businesses.

The PIPA membership includes over sixty Japanese companies and over eighty United States companies, representing major users

of the patent system in each country and major participants in technology exchange between Japan and the United States. To study the industrial property issues of Japan and the United States, the membership was formed into concurrent working committees for each country. The licensing committees eventually spun off their conciliation and arbitration study groups, because of the growing interest in these areas by PIPA members. These groups studied the applicable national and international laws and procedures for both arbitration and conciliation, and eventually proposed procedures in both these areas. It was in the course of these studies that it was concluded that there could be value in providing a new and special conciliation service, specific to intellectual property and licensing.

Each national group conducted surveys of its members, to estimate the frequency and nature of disputes between Japanese and American nationals involving intellectual property, and to observe what existing services or fora were invoked in settling these disputes. The results of these surveys were remarkably similar between the group of American respondents and the Japanese group.

About 80% of the American respondents (about 1/3 of the PIPA membership) reported that they had had disputes related to industrial property matters. It is assumed that most of those who did not respond to the survey would have answered in the negative. Of those who did respond, about 75% said that the subject of their disputes was related to patents, and 40% had been involved in disputes relating to know-how and technical information. There was reference in several cases to trademarks, over and above routine trademark opposition procedures. Several of the respondents noted that they have had fairly large numbers of trademark oppositions and patent oppositions, but these were not included in the survey.

Almost all of the American respondents having patent disputes said that they involved issues relating to patent validity and patent infringement. Fifty percent of these stated that the issue was validity or interpretation of patent rights, and 60% stated that infringement was an issue. There is clearly some overlap. A few respondents said that antitrust questions were involved.

Almost half of the United States respondents stated that they had been involved in disputes with Japanese on the scope of contracts relating to industrial property transfers. One third of these stated that the contract disputes related to the royalty and payment terms; 20% stated that the licensed territory was disputed. Other areas of disagreement concerned secrecy obligations, the duration of the agreement, and other problems of interpretation of the contract.

The disputes were settled in various ways. Twenty-five percent of the United States respondents resorted to litigation. Fifteen percent were settled by adjudication under Article 71 of the Japanese Patent Law, which provides that "with respect to the technical scope of a patented invention, an interpretation may be demanded of the Patent Office"; the Director of the Patent Office designates three judges, who follow a specified procedure and give their interpretation. There were no settlements reported by United States respondents through the use of conciliation under the Japanese law for Conciliation of Civil Affairs. Two disputes were settled by arbitration through existing organizations, namely the International Chamber of Commerce and the American Arbitration Association. Two respondents had settled their disputes through conciliation by a third party, one of these having used the conciliation procedure of the International Chamber of Commerce.

The PIPA analysis of these returns from the American group, and corresponding returns from the Japanese group, was as follows: Patent infringement is the major cause of dispute, and contract interpretation is the second cause of dispute; patent validity appears to be tied to infringement. There were an especially large number of settlements by negotiation. There was less settlement by arbitration and formal conciliation than by litigation. It isn't known how frequently negotiation between the parties had been tried and had failed. But it was becoming clearer to both the Japanese and American participants that some help in settling disputes could be of value.

Arbitration

The working committees of PIPA studied the existing conciliation and arbitration services that might be most applicable to patent and licensing disputes between Japanese and American nationals. Despite the unsettled state of United States law on arbitration of patent issues, arbitration is very attractive for the settlement of patent disputes involving nationals of other countries. In 1970 the United States passed the enabling legislation for enforcement in U.S. courts of awards under the International Commercial Arbitration Convention of 1958. This convention is enforceable in Japan. This should encourage use of arbitration in Japanese/American patent disputes.

For arbitration clauses in contracts involving United States and Japanese transactions, many authors¹ have taken pains to point out

¹ Sanders, Pieter, editor, "International Arbitration Liber Amicorum for Martin Domke," published by Martinus Nijhoff, The Hague (1967).

the pitfalls in using the brief general type of arbitration clause such as is recommended by the American Arbitration Association or the Japanese Commercial Arbitration Association. A typical and preferred form of model arbitration clause is the following, from an article by Professors Kawakami and Henderson entitled "Arbitration in U.S.-Japanese Sales Disputes."²

"Settlement of Disputes:

"(1) This clause is an integral part of this contract and is not separable and has no independent validity.

"(2) Questions of the validity of this contract and the scope of this arbitral clause are reserved for the court but if such questions are raised and decided in court, the loser shall pay all costs including a reasonable fee for the winner's attorney.

"(3) All other disputes, controversies, or differences which may arise between the parties, out of or in relation to or in connection with this contract, or for the breach thereof, shall be finally settled by arbitration pursuant to the Japan-American Trade Arbitration Agreement of September 16, 1952, by which each party hereto is bound except as modified by these provisions.

"(4) All arbitrations will be held in ——— [city] and this contract (including this arbitral clause), and all arbitral proceedings and awards hereunder will be governed by the internal law of ——— [usually the place of arbitration].

"(5) The parties hereto also agree that they will instruct the arbitrator in any proceeding hereunder not to specify his reasoning in his award." (pages 585-6)

The consensus of writers on this subject is that the Japanese-American Trade Arbitration Agreement, entered into by the American Arbitration Association and the Japanese Commercial Arbitration Association should be used. When this Agreement is incorporated into a contract, either by including their model arbitration clause or a modification of it such as has been recommended, arbitration in Japan is conducted under the rules of the JCAA and arbitration in the United States is conducted under the rules of the AAA. The Japanese-American Trade Arbitration Agreement itself also provides a method, albeit complex, for fixing the place of arbitration if the parties themselves do not provide in the contract for the place of the arbitration. In the context of the critical differences between the Uniform Commercial Code and Japanese sales law, as well as in the laws governing intellectual property and its transfer, decisions on substantive issues can turn on the site of arbitration, which site may not be known until the controversy shall have arisen.

There is a school of thought which views arbitration as merely

² University of Washington Law Review, Vol. 42 (March 1967) starting at page 541.

procedural, such that the law to be applied by arbitrators in dealing with issues involving foreign interests should be the law of the site of arbitration. But in Japan, Professor Kawakami advises, the parties have by law the right to choose the applicable law, whatever the forum of arbitration and independent of how this site is chosen. If the parties' choice is not made, or is not clear, then the applicable law may be judicially determined, and has either been chosen as the law of the place where the contract is to be performed, or the court has sought for the implied intention of the parties as to governing law.

From the viewpoint of drafting patent and know-how licenses with Japanese parties, it appears to be more important to name the applicable law than to decide on the site of arbitration. For instance, the parties might not consider it at all fair to decide in advance that the arbitration will be held in New York, no matter which party has committed the alleged wrong. It is usual to compromise on the site of arbitration; and if the law governing the contract is named in the contract, the site of the arbitration becomes less controlling of the outcome.³

For patent and know-how licenses of international scope, and particularly for those not unusual licenses which involve patents in several countries, and know-how which may flow in both directions, this can become exceedingly complex. It may be expressly provided in the arbitration clause that issues relating to the validity and scope of the patent shall be governed according to the law under which the patent was granted. Suppose, for example, an American firm licenses a Japanese firm under the American firm's Japanese, Australian, and Taiwanese patents for a particular subject matter. Suppose a dispute under a patent license has to do with not only patent scope, but also the contract terms, such as a dispute about royalty payments or accounting systems. It appears wise to set forth explicitly the parties' choice of governing law on all phases of the contract⁴ since the standard clauses recommended by the AAA, the JCAA, and the International Chamber of Commerce, as well as existing treaty provisions, do not adequately deal with this problem. There does, however, seem to be some doubt as to the acceptance by all jurisdictions of the principle of applying any law other than that of the site of arbitration.⁵

³ Maw, "Applicable Law and Conflict Avoidance in International Contracts," Record of the Association of the Bar of the City of New York, 365 (June 1970).

⁴ Ehrenzweig, "Contracts in the Conflict of Laws," 50 Columbia Law Review 973 (1959).

⁵ Kitagawa, "Contractual Autonomy," International Arbitration. . . , *op.cit.*, 133, 140.

In the model clause presented earlier, the arbitrators are expressly freed from the need to include their reasoning in the award, as they would otherwise be required to do—to avoid “suffocating” the arbitration with legal action. If such a provision is not expressly included, an award in Japan can be voided if the arbitrators do not include adequate details of their reasoning.⁶ This is a pitfall for the unwary, since in the United States an arbitrator is under no duty to give his reasons.

The cited Japanese commentators also advised that the contract should state that the arbitration clause is not separable from the rest of the contract, so that the court rather than the arbitrators would determine if there was fraud in the inception of the contract. This was intended, from the Japanese viewpoint, to counteract a trend they perceived in the United States to permit the arbitrators to decide threshold questions.

It is important also to state which arbitration agreement or procedure is intended to apply, since there are several alternatives to the Japanese-American Trade Arbitration Agreement. Arbitration under the rules of the International Chamber of Commerce may be designated. There are arbitration procedures in the Japanese Civil Procedure Code, as well as the various federal and state arbitration statutes of the United States. Any of these may be selected—and depending upon the site of performance of the contract, it may be that any of these procedures would be as fair to both parties as any other choice of arbitration rules.

Thus, the consensus from the American viewpoint was that arbitration is a useful procedure for settling disputes involving Japanese and American companies, and is probably particularly well suited to the complexities of patent and know-how agreements. Nevertheless, PIPA turned to conciliation.

Conciliation

The basic principle behind conciliation, and a major reason for its appeal to PIPA, is that conciliation is not binding. If the parties do not eventually enter into a contractual arrangement reflecting a voluntary settlement, with the help of the conciliator, there is no way for a court to enforce a conciliator's decision. But of course if the parties do reach an agreement, they could be way ahead. It is this possibility that was the motivating force for PIPA to provide this service.

⁶ Doi, “International Commercial Arbitration in Japan,” *ibid.*, 65,67.

In the United States this method of settling disputes is well established, in labor disputes and in a growing number of other areas such as community disputes. There are mediation services and agencies in most states and cities, and there is a Federal Mediation Service as an autonomous agency of the Federal Government. We keep hearing that there is a need to be flexible in settling patent disputes. It was hoped that a mediation service would provide maximum flexibility.

A key to successful mediation is that the mediator have the confidence of the parties. Mediators must be experts in tactics and in timing. They must understand the issues, even highly technical issues. In New York State, mediators are protected by statute from being required to disclose any information "relating to, or acquired in, the course of their official activities." Thus confidences received by these official mediators are protected. PIPA also recognized this problem, in its draft Rules of Conciliation. In many areas PIPA is feeling its way, spurred by the feeling of the Japanese and American members that in international contractual disputes on patent and know-how issues, the informal, private aspects of voluntary mediation may in some cases make this procedure preferable to both arbitration and litigation. In the Japanese situation, there is a disposition toward conciliation even between Japanese nationals; and there was a real enthusiasm among the PIPA Japanese members for the concept.

The view has been expressed forcefully, by Americans and some Japanese, that there is no need for another structure to help people to get together and talk out their differences. However, some PIPA members believe, from their past experience, that certain disputes between Japanese and Americans in the patent field might never have become serious, and might never have ended in court, if the PIPA procedure had been available to the parties. They suggest that it might be easier for parties with a communications problem to open discussion with the aid of a conciliator, if they could know that they could choose an industrial property expert as their conciliator, or if they could have confidence in the technological capability of the conciliator.

PIPA was reluctant to organize a new formal structure unless there was a need for it and an adequate interest in using it. It had become clear that the unfilled need, if any, was to facilitate an informal conciliation, to the extent that distance and language and culture diminished opportunities for working out differences, in areas of highly complex law and technology and importance. Very

few patent or licensing disputes involve trivial sums of money or other value. Often both parties are deeply committed financially by the time a disagreement arises. And the Japanese and Americans were both mindful of the cost factor of a drawn out litigation or even of arbitration, across the Pacific Ocean.

In view of all this, PIPA made a stab at designing an optimum arrangement, tailored to these specific purposes. PIPA tried to provide simple and straightforward rules for initiating conciliation, and rather stringent time limits for completing conciliation, in order to prevent a party that is not really interested in serious conciliation from delaying the other party from pursuing its legal remedies. These requirements are more rigorous, and more specific, than in the Rules for Conciliation of the International Chamber or of the Japan Commercial Arbitration Association.

Thus, either party can advise PIPA that it has a problem and wishes to conciliate if the other party is willing. A PIPA administrative officer will handle such requests promptly. This administrative officer is required to ascertain whether the other party is interested in conciliation and move rapidly to assist in the selection of a conciliator. PIPA would maintain a list of industrial property experts and others as appropriate, who are willing to serve as conciliators in various fields. This list at present includes nationals of Japan and the United States, but conciliators from other countries are being considered. The parties can also select a conciliator who is not on the list.

Thereafter, the PIPA executive has the responsibility of bringing the parties and the conciliator together as rapidly as possible. The Rules purposely omit all mention of the need for documentation and the presentation of positions and of objections to positions. Since conciliation is optional, there is no way to force a party to make complete disclosure during the conciliation procedure. This is of course a weakness of conciliation, and inherently limits its general applicability. Nevertheless, if there is a dispute that both parties are in good faith interested in settling, they would be expected to bring forth adequate pertinent information, perhaps with a bit of prodding from the conciliator.

It is proposed in the PIPA rules that a relatively short time period be set for the completion of the entire conciliation procedure. The parties can of course extend this time by mutual agreement. However, if one of the parties is not proceeding diligently to comply with the conciliation time schedule, the other party can pursue his other remedies without much lost time.

Since conciliation is completely voluntary, it is assumed that in many cases agreement will not be reached. To encourage open discussion and offers of compromise, it was considered essential that no information produced during conciliation, and no offers of compromise, should be held against a party in subsequent litigation. The Rules provide for this, and also provide that there be no record kept of the conciliation discussions.

The PIPA Rules of Conciliation include provisions similar to those which prevail in the conciliation rules for other organizations, but in several areas PIPA was able to simplify the rules and to reduce the formalities, in part because of the narrow scope of the type of disputes intended to be covered. The Rules in their present form include the following major points:

Article 1 requires that one party to the dispute be a resident or national of Japan or the United States. Membership in PIPA is not required.

Article 2 imposes on PIPA the obligation of maintaining a Panel of at least 10 possible conciliators, experts in various aspects of industrial property. The parties need not select a member of this panel, if they agree on some other conciliator.

Article 3 sets out the method for invoking this procedure, by writing to the Secretary of either the Japanese or American Group. If the other party to the dispute is not willing to participate, that's the end of it.

Article 4 relates to selection of the conciliator, with PIPA's help.

Article 5 states some simple ground rules for carrying out the conciliation, in good faith and diligently.

Article 6 affirms the privacy of the proceedings, including the identity of the participants. Article 6(b) reflects the desirability of reaching a binding written agreement, if the parties wish.

Article 7 suggests a 30-day limit to the conciliation process, unless the parties themselves want to extend it. It affirms that nothing said in the course of an unsuccessful conciliation, for example, offers at compromise, shall be used against a party.

Article 8 provides for a fee to cover PIPA's administrative costs, and in the Regulations this is set for the present at \$100 per party. All other costs, and the conciliator's costs, are paid by the parties.

The Appendix is a suggested conciliation clause for incorporation into contracts on industrial property.

This procedure will be launched, officially, early in 1977. Statistical records will be kept, to determine its value over a trial period.

Licensing Executives Society Inquiry Into Arbitration: A Discussion

EDWARD J. BRENNER*

The Arbitration Committee of the Licensing Executives Society (LES), as its project during the committee year of 1974-1975, conducted a survey of its members to determine whether there was sufficient interest to justify an effort on the part of the Society to establish some sort of arbitration machinery under the auspices of LES. The results of this survey are set forth in the table entitled "Results of LES U.S.A. Arbitration Committee Survey".

Based upon the interest shown by the membership in establishing an LES arbitration program, the LES Arbitration Committee, during the 1975-1976 committee year, embarked on the first step of a long range program to establish an arbitration program in LES's fields of interest. This involved a survey of its members to determine whether there was sufficient interest to make it feasible to establish an arbitration panel composed of its members to arbitrate disputes in LES's fields of interest. The results of this survey are reported in the table entitled "Responses to LES Arbitration Questionnaires".

Based on the results of this latest survey, it appears that there is sufficient interest to establish an LES panel of arbitrators. Thus, it is presently contemplated that the LES Arbitration Committee will

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proceed with its long range program which as presently conceived would involve (1) work with the American Arbitration Association (AAA) during the Committee year 1976-1977 to establish an LES panel of arbitrators in the U.S. within the AAA organizational structure, (2) work with AAA and the International Chamber of Commerce (ICC) during the Committee year 1977-1978 to establish an LES panel of arbitrators internationally within the AAA-ICC organizational structure, and (3) work with the AAA and ICC during the Committee year 1978-1979 to possibly provide special rules for arbitration in the LES fields of interest.

Results of LES U.S.A. Arbitration Committee Survey

Results of the recent LES survey conducted to determine interest of LES members in using arbitration to settle patent, know-how or license disputes are as follows:

QUESTION 1. Have you used arbitration to settle patent, know-how, or license disputes?

	<u>U.S. Responses</u>	<u>Foreign Responses</u>	<u>Total</u>
YES — number	60	14	74
percent	21	10	17
NO — number	225	120	345
percent	77	85	80
No Answer — number	6	7	13
percent	<u>2</u>	<u>5</u>	<u>3</u>
Total	291	141	432

QUESTION 2. Have you been involved in a lawsuit which on hindsight you wish you had arbitrated?

	<u>U.S. Responses</u>	<u>Foreign Responses</u>	<u>Total</u>
YES — number	54	17	72
percent	19	12	17
NO — number	230	118	348
percent	79	84	80
No Answer — number	6	6	12
percent	<u>2</u>	<u>4</u>	<u>3</u>
Total	291	141	432

QUESTION 3. *Are you now involved in a dispute which you would consider settling by arbitration?*

	<u>U.S. Responses</u>	<u>Foreign Responses</u>	<u>Total</u>
YES — number	77	31	108
percent	26	22	25
NO — number	211	100	311
percent	73	71	72
No Answer — number	3	10	13
percent	<u>1</u>	<u>7</u>	<u>3</u>
Total	291	141	432

QUESTION 4. *Under what conditions would you consider using arbitration to settle disputes?*

The answers to this question were quite varied, but most frequent responses indicated respondents would consider using arbitration where the other party was a foreigner, where amount of money is small relative to litigation cost, where parties wished to maintain confidentiality, where time and/or money could be saved, and where it was desirable to maintain good relations with the other party.

QUESTION 5. *If LES sets up an arbitration panel, would you have your company use it, and would you recommend it to your executive and legal staff?*

	<u>U.S. Responses</u>	<u>Foreign Responses</u>	<u>Total</u>
YES — number	113	51	164
percent	39	36	38
YES — number (Conditionally)	61	28	89
percent	21	20	21
It depends — number	34	25	59
percent	12	18	14
NO — number (Probably not)	56	19	75
percent	19	13	17
No Answer — number	27	18	45
percent	<u>9</u>	<u>13</u>	<u>10</u>
Total	291	141	432

QUESTION 6. *Would you regard arbitrators as acceptable to LES if they have met the requirements for appointment to the National Panel of Arbitrators of the American Arbitration Association?*

	<u>U.S. Responses</u>	<u>Foreign Responses</u>	<u>Total</u>
YES — number	166	56	222
percent	57	40	52
NO — number	34	25	59
percent	12	18	13
No Comment — number (Wrong Question)	91	60	151
percent	<u>31</u>	<u>42</u>	<u>35</u>
Total	291	141	432

QUESTION 7. Would you accept arbitrators with no such experience with the American Arbitration Association?

	<u>U.S. Responses</u>	<u>Foreign Responses</u>	<u>Total</u>
YES — number	142	54	196
percent	49	39	45
NO — number	62	29	91
percent	21	21	21
No Comment — number	87	58	145
(Wrong Question)			
percent	<u>30</u>	<u>42</u>	<u>34</u>
Total	291	141	432

Other Comments:

Responses to this question were also quite varied, but included the following key comments: (1) Can LES fulfill a need? (2) LES must complement existing procedures or provide demonstrable advantages. (3) Quality of arbitrators is most important need. (4) LES should cooperate with AAA and ICC. (5) LES arbitration should be available in all LES chapter countries. — LES U.S.A. ARBITRATION COMMITTEE, *Edward J. Brenner, chairman.*

RESPONSES TO LES ARBITRATION QUESTIONNAIRES

RESPONSES	TECHNICAL FIELD				PROFESSION			ARBITRATION EXPERIENCE		BUSINESS	
	Chem.	Mech.	Elect.	Other	Attorney	Engr.	Other	Yes	No	Company	Private*
U.S. (183)	72	54	30	27	142	7	34	24	159	87	96
Foreign (107)**	29	22	13	43	64	13	30	27	89	34	73
Total (290)	101	76	43	70	206	20	64	51	248	121	169

* Private practice, universities

** 1 = Austria
 3 = Australia
 6 = Belgium
 1 = Brazil
 4 = Canada
 1 = Denmark
 3 = Finland
 11 = France
 1 = Germany
 11 = Italy
 13 = Japan
 1 = Mexico
 8 = The Netherlands
 3 = Norway
 1 = Spain
 6 = Sweden
 9 = Switzerland
 1 = Taiwan
 1 = Yugoslavia
 22 = U.K.

Arbitration of Patent-Antitrust Disputes: Business Expediency vs. Public Interest

JAMES A. CURLEY*

"The public interest," remarked Justice Jackson many years ago, is "so frequently present but so seldom adequately represented in patent litigation."¹ Well represented or not, the public interest has served for centuries as a basis for judicial decisions in England. It has been traced back to the early fifteenth century as forming the basis of decision in the *Dyer's Case*,² in which a covenant not to compete in the practice of a trade was found unenforceable.³ Public interest considerations also underlie the decision in *Darcy v. Allin*, the famous Case of Monopolies.⁴ There, Darcy's patent on playing cards granted by Queen Elizabeth was declared void and contrary to the common law, as it purported to give Darcy a monopoly over a product already in use in England.

The public interest continues to this day as one of the most

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¹ *Muncie Gear Works, Inc. v. Outboard, Marine & Mfg. Co.*, 315 U.S. 759, 768 (1942). Public interest considerations have from early times been recognized as present in patent cases. *Kendall v. Winsor*, 62 U.S. (21 How.) 322, 329 (1858).

² Y.B. 2 Hen. V, vol. 5, pl. 26 (1413).

³ Knight, *Public Policy in English Law*, 38 L.Q. Rev. 207 (1922).

⁴ 77 Eng. Rep. 1260 (K.B. 1602).

important factors influencing decisions of controversies concerning restraint of trade, patent misuse and patent validity. Indeed, the start of the doctrine of patent misuse arose out of conduct found only to be contrary to the public interest.⁵

What are the interests that need protection? Certainly there is a public interest in preserving rivalry among producers so that consumers are given maximum satisfaction. The antitrust law is thus aimed primarily at the elimination of restraints on rivalry where the principal effect is presumed to be a restriction either of output or of the development of new or improved products. So, too, is there a public interest in seeing that patents are not extended beyond their legitimate scope. The courts seem to think that these interests will not be properly protected in patent-antitrust disputes that go to arbitration, and invariably have refused to enforce agreements to arbitrate future disputes under the antitrust laws.

The *American Safety Equipment* case,⁶ decided by the Second Circuit in 1968, is one of the leading cases. That case arose out of a patent and trademark license which contained a provision requiring that all disputes be settled by arbitration. A controversy arose between the parties and the licensee filed suit for a declaratory judgment against the licensor. The licensor moved to stay the suit pending arbitration. The district court stayed the case and permitted both issues—breach of the license agreement, and a claim that the agreement was unenforceable since it violated the antitrust laws—to go to arbitration. The court of appeals reversed ordering the district court to first decide the antitrust issue before submitting the case to arbitration. The appeals court found that the public interest would not be properly served by arbitration of antitrust issues, stating:

A claim under the antitrust laws is not merely a private matter. The Sherman Act is designed to promote the national interest in a competitive economy; thus the plaintiff asserting his rights under the Act has been likened to a private attorney-general who protects the public's interest. * * * . . . the claim here is that the agreement itself was an instrument of illegality; in addition, the issues in antitrust cases are prone to be complicated, and the evidence extensive and diverse, far better suited to judicial than to arbitration procedures.

⁵ *Morton Salt Co. v. Suppiger Co.*, 314 U.S. 488, 494 (1942). Antitrust principles however were quickly absorbed into the doctrine of patent misuse, see, e.g., *National Lockwasher Co. v. George K. Garrett Co.*, 137 F.2d 255, 256-57 (3d Cir. 1943); *Mercoid Corp. v. Minneapolis Honeywell Regulator Co.*, 320 U.S. 680, 684 (1944). The doctrine can now be invoked whenever the patent is improperly obtained, extended beyond its legitimate bounds, or exploited in a manner violative of the antitrust law.

⁶ *American Safety Equip. Corp. v. J.P. Maguire Co.*, 391 F.2d 821 (2d Cir. 1968).

Moreover, it is the business community generally that is regulated by the antitrust laws. Since commercial arbitrators are frequently men drawn for their business expertise, it hardly seems proper for them to determine these issues of great public interest.⁷

The courts have also seemed reluctant to allow a person to waive a claim to treble damages and attorneys' fees, and to the other advantages provided by statute to private claimants, especially where the promise to arbitrate appears in a contract of adhesion.⁸

The public interest is also subject to compromise when disputes over patent validity are referred to arbitration. In the *Lear* case the Supreme Court emphasized "the important public interest" in seeing that challenges to patent validity are not blocked by obligations arising out of contract.⁹

A patent becomes unenforceable, for all practical purposes, after a judicial finding of invalidity, so long as the patent owner had a full and fair opportunity to litigate the issue in accordance with the standard established by the Supreme Court in its decision in *Blonder-Tongue*.¹⁰ This is the direct result of the court's ruling that the defense of collateral estoppel can be raised by any accused infringer after the patent has been found invalid. The Court, however, seems to have limited its holding to a finding of invalidity by a federal court.¹¹ By resorting to arbitration, however, a patent owner might be able to avoid this result. If the patent is found valid, the arbitration award can be confirmed and enforced by court order. If the patent is found invalid, the patent owner will still have another opportunity to look over the patent's defects, develop further evidence of validity, and, in general, have a second chance to do battle another day. While a decision of invalidity by an arbitrator undoubt-

⁷ *Id.* at 826, 827. See also, *Power Replacements, Inc. v. Air Preheater Co.*, 426 F.2d 980, 982-84 (9th Cir. 1970); *A. & E. Plastik Pak Co. v. Monsanto Co.*, 396 F.2d 710, 716 (9th Cir. 1968). More recently, a stay of arbitration was denied where an antitrust claim arising out of a controversy over a patent license was neither clearly established nor raised in a timely fashion. *N.V. Maatschappij Voor Industriële Waarden v. A.O. Smith Corp.*, 532 F.2d 874, 876-77 (2d Cir. 1976).

⁸ *Pitofsky, Arbitration and Antitrust Enforcement*, 44 N.Y.U.L. Rev. 1072, 1079-80 (1969).

⁹ *Lear, Inc. v. Adkins*, 395 U.S. 653, 670 (1969); see also, *Massillon-Cleveland-Akron Sign Co. v. Golden Gate Advertising Co.*, 444 F.2d 425, 426-27 (9th Cir.), cert. denied, 404 U.S. 873, rehearing denied, 404 U.S. 959 (1971) (*Lear* rationale extended to settlement agreement containing covenant not to contest patent validity).

¹⁰ *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*, 402 U.S. 313 (1971).

¹¹ *Id.* at 327. *North Carolina v. Chas. Pfizer & Co., Inc.*, 537 F.2d 67, 73-74 (4th Cir.), cert. denied, 45, 429 U.S. 870 (1976).

edly weakens the patent, it does not entirely remove the patent owner's leverage in negotiating with licensees who might be about to discontinue royalty payments.¹²

The risk that the patent will be found invalid in a court case, and thus unenforceable against licensees and infringers alike, hangs over the head of the patent owner during settlement negotiations like the Sword of Damocles. While this factor can be a decided advantage to an accused infringer, it can also be a disadvantage. Should the patent be found invalid, competitors of the accused infringer will benefit from free use of the invention without having had to finance the lawsuit.

Arbitration might prove attractive to an accused infringer when the free-rider problem is troublesome. The limited *in personam* effect of an award will not rid competitors of liability under the patent. A finding of patent invalidity by an arbitrator would allow the victorious infringer use of the invention without the corresponding burden of royalty payments, while the patent stands as an obstacle to his competitors.

An arbitration award against the patent might permit the victorious infringer to charge a price for the patented product just below the price of competitors required to pay royalties, but above the price likely to prevail if the patent was unenforceable.¹³ To that extent, it seems that arbitration of disputes over patent validity runs counter to the policy underlying the *Blonder-Tongue* case.

Arbitration is an instrument of business self-government that enables firms to dispose of their differences in private. It, too, has had a long history dating back to ancient times.¹⁴ Arbitration grew out of the merchant's general dissatisfaction with the harshness of the law, and the desire for a more equitable solution to commercial disputes.¹⁵ Its popularity in the United States can be attributed to the businessman's desire for privacy and his general belief that arbitration is faster and less expensive than court action. The availability of experts as decision-makers has also weighed heavily in favor of arbitration with businessmen.

¹² It is doubtful that an order of a federal court confirming an arbitration award would be sufficient to estop the patent owner, under the *Blonder-Tongue* standard, from reasserting the patent.

¹³ *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*, 402 U.S. at 346-47.

¹⁴ Mentschikoff, *Commercial Arbitration*, 61 Colum. L. Rev. 846, 854-56 (1961).

¹⁵ "The arbitrator looks to what is equitable, the judge to what is law; and it was for this purpose that arbitration was introduced, namely, that equity might prevail." Aristotle, *Rhetoric*, bk. 1, ch. 13.

While most businessmen make a conscientious effort to obey the antitrust laws, there is a natural wariness of industry in general towards the limits it imposes on their conduct. The privacy of an arbitration proceeding, without a requirement that the arbitrator submit a written opinion setting forth the reasons underlying an award,¹⁶ is likely to lead to a relaxed standard in applying the antitrust laws, and in keeping secret from enforcement authorities and private treble damage claimants conduct that might have violated the law. This could lead to the development of two bodies of law: one applied publicly through the courts, and the other applied privately through arbitration. This would impede the proper development of the law and its enforcement.

Arbitrators are generally chosen for their experience in the industry, are not bound by rules of law, and their decisions are essentially final.¹⁷ A federal judge is a disinterested governmental official sworn to uphold the law, is not involved in the day-to-day problems of the industry, and is not economically tied to the fortunes of the industry. I do not believe that the same can be said for most arbitrators.¹⁸ On balance it would seem that the public interest in patent-antitrust disputes would best be served in a federal court.

This does not mean, however, that there is no place for arbitration in disposing of patent and antitrust controversies. The business judgment and industry experience that the arbitrator can bring to bear on issues such as determination of a reasonable royalty for use of an invention, measurement of the extent of damages, and accounting for profits, can be of great benefit to the parties without unduly compromising the public interest. Arbitration was used effectively in the *Besser* case where the court ordered compulsory patent licensing at reasonable royalty rates after a finding that the patent owner had violated the Sherman Act.¹⁹ Similarly, a recent

¹⁶ *Aimcee Wholesale Corp. v. Tomar Prods., Inc.*, 21 N.Y. 2d 621, 626; 237 N.E. 2d 223, 225; 289 N.Y.S. 2d 968, 971 (1968); Mentschikoff, *Commercial Arbitration*, 61 Colum. L. Rev. 846, 865 (1961).

¹⁷ *Aimcee Wholesale Corp. v. Tomar Prods., Inc.*, 21 N.Y. 2d 621, 626; 237 N.E. 2d 223, 225; 289 N.Y.S. 2d 968, 971 (1968).

¹⁸ "Experience has demonstrated that arbitrators designated by respective contestants, despite their acknowledged integrity, almost always see the justice of their appointer's position. The subtleties of gratitude and loyalty have an unfortunate way of affecting the mind, often without the awareness of the principled man behind the mind." L. Nizer, *My Life in Court*, 443, Doubleday & Co., Garden City, N.Y. (1961).

¹⁹ *Besser Mfg. Co. v. United States*, 343 U.S. 444, 448 (1952); see also, *Hanes Corp. v. Millard*, 531 F.2d 585, 598-600 (D.C. Cir. 1976) (arbitration appropriate to

consent order of the Federal Trade Commission in the *Xerox* case requiring compulsory patent licensing, provided for arbitration of all disputes between Xerox and applicants for a patent license.²⁰ The consent order, however, clearly excepts from arbitration questions regarding patent infringement, scope, validity, and enforceability.

The courts have correctly recognized the overriding public interest in issues arising out of patent-antitrust controversies. Only the courts, I submit, can provide adequate, legal safeguards for the public interest in this area. Arbitration, on the other hand, appears best suited for dealing with business matters of interest essentially only to the parties concerned. The courts are also in a better position to determine the substantive merit of patent-antitrust claims, and, through full discovery, public proceedings, written opinions, and judicial review, the law can be expected to develop along more uniform, well-reasoned lines. I am confident the courts will be more likely than arbitrators to assign appropriate roles to the often competing interests of the parties and the public.

decide dispute over interpretation of patent license, including defense of statute of limitations).

²⁰ In the Matter of Xerox Corp., Docket No. 8909, consent order entered on July 30, 1975; see 725 Antitrust & Trade Reg. Rep., p. A-5 (August 5, 1975).

Policy Issues in Using Arbitration to Resolve Patent-Antitrust Problems

ALAN A. RANSOM*

It is my pleasure to be here today to discuss the policy implications of arbitrating antitrust-related defenses and counterclaims. Let me begin by making the customary governmental disclaimer which, in this case, I can shorten to a reminder of one basic notion—I don't vote. This puts me in the happiest of circumstances as I can freely shoot from the lip and if nothing happens I can rest secure in the knowledge that I don't vote.

If I strictly stayed on our subject matter and talked about the policy implication of arbitrating antitrust-related defenses and counterclaims, I could make this presentation mercifully brief and simply say "ain't none." This would be so because the courts look with raised brow at the arbitration of an antitrust claim. This, however, is a question distinct, really, from what the *policy implications* of such an arbitration *are*, as opposed to what they *should* be.

There is very little point in reviewing or reiterating the very comprehensive analysis put together by Messrs. Feinberg, Pitofsky, Loevinger and Axen in their 1969 symposium.¹ At present, I would

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¹ Symposium, *Arbitration and Antitrust*, 44 N.Y.U.L. Rev. 1069 (1969).

have to say that the prospects for expanding the scope of arbitration provisions in any forthcoming patent legislation are not very good. I say this for a variety of reasons, both philosophical and legal, buttressed by the meager history such or similar provisions have enjoyed in recent legislation.

First, I think that whether you are pro or con arbitration, you can make arguments either way from the establishment of the copyright royalty tribunal pursuant to Section 801 of the new copyright bill.² If you are pro arbitration, you can argue that at least the establishment of the tribunal for the purposes of "the adjustment of reasonable copyright royalty rates" as provided in §§ 115, 116, and 118, and 111 indicates a legislative awareness that in certain circumstances separate fact finding tribunals have their place in at least the *copyright* structure. On the other side of the coin, the Senate bill initially provided that the tribunal be appointed by the Register from among the membership of the American Arbitration Association or some similar organization. In the hearings on the House side,³ Mr. Brylawski expressed a constitutional concern over the provision of the Senate bill under which the Register of Copyrights, a legislative branch employee, would be appointing the Tribunal members. The House Committee therefore adopted an amendment providing for direct appointment of three individuals by the President.⁴

Similarly, the Patent Reform bill that passed the Senate, S. 2255, originally contained an arbitration provision that was eliminated by a 3-2 vote in the Subcommittee. Section 1308, the Administration's patent bill, introduced by Senator Scott in March of 1975, contained a voluntary arbitration provision in § 294. S. 2504, introduced in October of 1973 by Mr. Scott, contained as well the same arbitration provision.

Let me now turn briefly to some of the policy problems in using the arbitration process for the resolution of patent-antitrust problems. I think it is well to bear in mind that the *entire* membership of the Judiciary Committee (and thus of course the Subcommittee on Monopolies and Commercial Law which may be handling the patent bill this year) consists by tradition of lawyers. I make this point only

² S. 22 now P.L. 94-553 (94th Cong. 2d Sess. 1976).

³ Copyright Law Revision, Hearings before the House Subcommittee on Courts, Civil Liberties, and the Administration of Justice, Committee on the Judiciary, 94th Cong., 1st Sess. Part I, at 459, *et seq.* (Ser. No. 36, 1976).

⁴ See H. Rep. 94-1476 (94th Cong. 2d Sess. 1976) at 174; H. Conf. Rep. 94-1733 (94th Cong. 2d Sess. 1976) at 81.

because there is a traditional lawyer's bias against the arbitration of antitrust and patent issues. The cases⁵ frown upon it for reasons that are in my view very compelling. Take as illustrative the quote from the *Beckman Instruments* decision: "Moreover we are in accord with the District Court's view that such questions [as patent validity] are inappropriate for arbitration proceedings and should be decided by a court of law, given the great public interest in challenging invalid patents."⁶

I think the reasons for this have been very convincingly set forth in articles by Bob Pitofsky and Lee Loevinger in the 1969 New York University Symposium on Arbitration and Antitrust.⁷ Briefly, they are as follows: antitrust policy is founded upon the very basic concept of private enforcement of a public good; competition and competitors are kept open and honest by private litigation. Indeed, within the last 20 years or so private litigation has contributed more significantly than government activity to the development of progressive antitrust law.

To be realistic, no one likes to pay treble damages. I think it is very clear that any lawyer worthy of the name would hasten to use an arbitration provision so drafted as to avoid this potential liability. While this might be well and good for the private client, it is not necessarily good, in fact it is obviously bad, for the public interest. If one adds to this the fact that usually arbitration awards need not be based upon a written opinion, and that opinion may be by an arbitrator who lacks antitrust expertise, this difficulty is compounded. Essentially, what you have is a very direct confrontation between private interest and public policy.

Before attempting to find a ray or two of light in this rather bleak landscape, let me make the picture even darker. As you know, the past few years have seen a significant strengthening of our antitrust laws. The Federal Trade Commission Act has been substantially beefed up; consumer protection has been strengthened; fines have been increased for Sherman Act violations so they are now felonies. Premerger notification legislation has finally been enacted; the Department of Justice's Civil Investigative Demand powers have been substantially increased, and, most importantly, *parens patriae* legislation now gives State antitrust authorities a substantial new weapon. There is serious talk of other significant antitrust initiatives, and I

⁵ See e.g. *Beckman Instruments, Inc. v. Technical Development Corp.*, 433 F2d 55 (7th Cir. 1970) *reh. den.* (1970).

⁶ *Id.* at 63.

⁷ See fn. 1, *supra*.

am quite sure that you will see some in the near future. What this means, of course, is that there is an even greater feeling that the antitrust laws are public tools to be publicly enforced.

Now for some rays of light. Let us take as our starting point, and this is really only for purposes of illustration, *Diematic Mfg. Corp. v. Packaging Industries, Inc.* There, the court noted:

"It has long been the law that not all cases involving patents or the interpretation of the patent laws fall within the exclusive jurisdiction of the federal courts under 28 U.S.C. § 1338 (a) [citing *Keyser Indus. Corp. v. Pet, Inc.*, 459 F.2d 1010 (6th Cir. 1972)]. Rather the court must look to the claim asserted to determine whether it is created by the patent laws (*e.g.*, a claim for infringement) or is based upon some right by State law. [Footnote omitted]."⁸

What this means, of course, is that if a suit is based on a license or royalty contract seeking, for example, specific performance or damages for breach of contract, an action, absent diversity, does not "arise" under the patent laws.

The court went on to say that a claim for patent infringement *and* for breach of the underlying agreement, could not be arbitrated or decided in the State court. *But*, said the court, the nature of the issues raised by the breach of contract claim involved a promise not to infringe the defendant's patent, and a determination of whether the plaintiff had breached the contract would depend on whether the infringement had occurred. The infringement issue is for the court and not for the arbitrator. Obviously, if you are going to start upon this slender a reed, you must look not so much to what the court actually held, but to what it said. It noted for example that: "Questions of patent *law* are not mere private matters."⁹

The "Nature of Dispute" stated that: "Respondent [Diematic] has manufactured, used and sold trays covered by the patent and therefore has infringed and is infringing upon the patent owned by Claimant [Packaging] and has breached the Agreement." Further, Packaging sought, as relief, a "full and accurate accounting of all revenues in any way attributable to [Diematic's] *infringement* upon [Packaging's] patent."¹⁰ In other words, the relief sought was relief *dependent* upon a finding of infringement. The court rightly noted that any determination of whether Diematic had breached a contract would *necessarily* depend upon a finding of infringement. This, said the court, is for the courts and not the arbitrators.

⁸ 381 F. Supp. 1057, 1060 (SDNY 1974).

⁹ *Id.* at 1061 (emphasis supplied).

¹⁰ *Ibid.*

Now, if there is a place for arbitration in antitrust patent litigation, I think it can be pointed out here. Note that a determination of whether the contract had been breached would *necessarily* depend upon a *finding* of infringement. That is a legal conclusion. *Legal conclusions* depend upon many things, and one of those is the public policy behind the statute. This is where the courts are, I feel, justifiably concerned about who makes the legal decisions, and thus the policy choices.

But, the same is decidedly *not* true of *factual* determinations. A fact has no morals. It is just that—a fact.

This is where I think arbitration may indeed have a role to play. Patent-antitrust litigation is notoriously complex—it is abstruse—it is lengthy—it often depends upon a mass of technical evidence. I think very serious and cogent arguments of judicial economy, improvement in the quality of antitrust-patent decisions and savings of time can be made by the arbitration process, but it must be within a very carefully defined area.

I think Bob Pitofsky's article points out the problems very well, and I would focus on the difficulty of separating "factual" from "legal" issues. The particular problem in patent law is that if a court, or for our purposes an arbitrator, makes an extensive factual finding and places at the top thereof the legal capstone of "infringement" or "non-infringement," as a practical matter that immense factual determination may almost never be overturned on appeal. This will tend more to be the case where you have conflicting and voluminous technical and expert witnesses,¹¹ and the trial court makes findings one way or the other. The particular problem for patent-antitrust arbitration therefore is that as a practical matter, the policy determination—that is the legal conclusion—may in effect be compelled by factual findings made by private individuals—and that is exactly what the courts frown upon.

I think the arguments are compelling that the arbitration process can be useful in patent-antitrust matters, but I simply do not think it is realistic to expect the courts to change their current views unless arbitration proceedings in this particular area are substantially modified. There would have to be detailed, written, findings of fact; adequate discovery, adequate rights of appeal, and the courts must

¹¹ Note that the courts have often expressed the notion that they are ill-equipped to deal with mountains of expertise-generated data for the purposes of making policy choices based thereon. See e.g. *United States v. Topco Associates*, 405 U.S. 596, 609 (1971).

be shown that this is done with an effective and meaningful level of expertise.¹² It is clear, I think, that any legislative proposals that one expects to have any realistic chance of enactment would have to reflect these concerns.

One of the more important considerations, of course, would be the damage issue when the facts found by the arbitrator compels the legal conclusion of an antitrust-patent violation. This is where the treble damage policy comes into play, and I think this is the strongest area of conflict between arbitration and policy expressed in the antitrust treble damage provisions.

I have left out of this discussion issues such as the arbitration of present versus future disputes, contracts of adhesion, etc., because I do not think that they bear directly upon the area where arbitration can be useful—they are really legal determinations, and I think the primary value of arbitration in the context we are discussing is factual.

Let me also point out that arbitration provisions have been incorporated in various consent decrees. The most recent is the FTC's Xerox consent. I think this also points up the fact that the judicial process is compatible with antitrust-patent arbitration in certain circumstances.

I would like to stop here, on the theory that the most valuable lesson a lawyer can learn is when to shut up.

¹² For a case which sets out criteria for an acceptable arbitration scheme see *U.S. v. Linen Supply Inst. of Greater New York*, 1958 Tr. Cases ¶ 69, 120 (DCNY 1958). Note the facts here are far afield from our concerns, but the approach to the solution is the same.

Arbitration and Antitrust: A Marriage Of Convenience Or Necessity?

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I. Introduction

The use of arbitration to resolve disputes between parties has an immense appeal to any litigant who has been exposed to the time, expenses and frustrations of the judicial system. Indeed, in this age of endless discovery and the procedural permissiveness of civil litigation, the parties are more likely to believe that the end achieved by the judicial process is the exhaustion of the litigants rather than the remedies.

If litigants are dismayed by the spiralling costs of more or less conventional civil litigation, it takes no crystal ball to realize that the dismay reaches astronomical proportions when the controversy involves one or more antitrust issues. Unfortunately, the very things that make commercial arbitration attractive for the resolution of disputes between parties who have by contract established a continuing relationship make it unattractive to those who are concerned with the enforcement of our antitrust laws. Still, the need is great to tailor the arbitration process to the antitrust

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domain so that some antitrust issues at least can be resolved relatively quickly without an undue investment of time and money.

While we do not profess to have all the answers, it is our belief that the benefits of arbitration can be married to the needs of antitrust without destroying the one and ignoring the public importance of the other. To start a modest dialogue on the form and content of this marriage, we propose to consider the policy considerations which oppose the use of arbitration to resolve antitrust issues, review the treatment by courts of attempts to utilize arbitration in the antitrust arena, look briefly at other public policies which are being poorly served by courts' inabilities to act simply and promptly, and evaluate the policy considerations in view of the reality of civil litigation in the federal courts. With this as a foundation, we hope to suggest the outlines of an arbitration-antitrust marriage.

II. Policy Considerations

Policy considerations militating against the arbitration of disputes involving antitrust issues have been widely discussed in literature¹ and generally accepted by the courts. Those opposing arbitration have given a number of grounds and the courts have echoed most of them when confronted with the question of whether they should permit arbitration of antitrust claims. However, the issue is actually resolved at the "gut" level in most cases.

What really seems to happen is that strong supporters of our antitrust laws eschew arbitration as a compromise because an antitrust dispute is viewed as the waging of war with no quarter being granted. Thus, the reasons for barring arbitration are often make-weights which follow rather than precede the conclusion. This approach reminds one of the definition of a statistician as one who draws a straight line between a mass of statistical data and a foregone conclusion! Analyzing the tendency of antitrust proponents to draw such a straight line, what are the "reasons" most commonly assigned for not permitting arbitration of antitrust issues?

First, the anti-arbitration forces contend that parties seldom con-

¹ Perhaps the most thorough analysis of policy considerations both for and against arbitration of antitrust disputes is "Symposium: Arbitration and Antitrust," 44 N.Y.U. L. Rev. 1069 (1969), hereinafter cited as "NYU Symposium." See also, Farber, "The Antitrust Claimant and Compulsory Arbitration Clauses," 28 Fed. B.J. 90 (1968); and "Private Arbitration and Antitrust Enforcement: A Conflict of Policies," 10 B.C. Ind. & Com. L. Rev. 406 (1969).

template an advance waiver of their rights to litigate and obtain damages for future antitrust claims or disputes when entering into contracts that contain arbitration clauses.² This is argued to be so since arbitration is a quick and relatively inexpensive method of resolving simple disputes and misunderstandings such as the quality of goods delivered,³ whereas antitrust disputes require lengthy proceedings to resolve the difficult and complex issues which are ordinarily involved.

In addition to the complexity of antitrust issues, they are inextricably tied up in public policy concerns. The public interest in economic competition, which is at the heart of our antitrust laws, must be taken into account in resolving antitrust disputes. Since plaintiffs in private antitrust litigation serve as private attorneys general, many fear that they cannot represent the public interest if they have agreed in advance to arbitrate a dispute privately and thereby avoid searching judicial scrutiny.⁴

Others who oppose the use of arbitration when antitrust issues are involved use a "contract of adhesion" theory to support their position.⁵ The argument goes that since the parties to a contract possess unequal bargaining power, the inclusion of an arbitration clause may have been coerced by the stronger party to foreclose meaningful judicial review of its business conduct. The logical conclusion follows: don't permit antitrust issues to be arbitrated.

Another group of objections revolves around the capacity of the arbitration process and the capacity of the arbitrator to cope with the sophisticated legal issues and the volume of evidence usually present in antitrust disputes.⁶ Since antitrust disputes nearly always involve voluminous business records of the parties and others, extensive interrogatories and depositions, and an above-average number of witnesses, it is often asserted that the arbitration process is ill adapted to proper adjudication of the issues since an arbitrator has

² NYU Symposium, *supra* n. 1, at 1090.

³ "[T]he legislative history which indicates the [Federal Arbitration] Act was to have a limited application to contracts between merchants for the interstate shipment of goods . . ." *Prima Paint Corp. v. Flood & Conklin Mfg. Co.*, 388 U.S. 395, 409 (1969) (Black, J., dissenting opinion).

See also *id.* at n. 2: "The principal support for the Act came from trade associations dealing in groceries and other perishables and from commercial and mercantile groups in the major trading centers."

⁴ NYU Symposium, *supra* note 1, at 1076-77 and at 1091.

⁵ *Id.* at 1091.

⁶ *Id.* at 1077-78 and at 1090-91.

no power to compel these diverse interests to produce their records and disclose the facts.⁷

As to the arbitrator's individual capability, it is feared that the arbitrator will be unequal to the task. After the record is fully developed, a complex interplay of antitrust precedent and the facts of record is inevitably involved.⁸ Since some commercial arbitrators at the present time have no legal training, and an arbitrator with business experience or one with a general commercial background would be at a loss in coping with the issues of this complexity, the propriety of the arbitration process itself is challenged. Then too, some opponents also assert that due to this type of background, the arbitrator will tend to sympathize with the party whose business practices are being challenged.⁹

It is also felt that a business background will cause the arbitrator to seek an equitable resolution of the matter which will not show the proper concern for the public policy underlying the antitrust laws. Related to the fear that non-lawyer arbitrators would not be able to handle the complex issues involved in most antitrust disputes is the corollary that they would not act judiciously. For example, it is argued that arbitrators who have not had judicial experience would not properly apply precedents in making their award.¹⁰

Another objection to arbitration is the finality of the arbitration decision.¹¹ Since courts normally limit their substantive review of arbitration awards, many fear that the public policy implications of the challenged business activities would never be allowed to surface for critical evaluation by any reviewing body. Related to this concern is the fact that arbitrators' decisions are not usually made public. As a result, the business community is not even apprised of an opinion which could be the basis for a revision of their own business practices where appropriate.

Last, but by no means least, is the judiciary's natural antipathy toward any system which tends to usurp the function of the courts. This reason for distrusting the arbitration process is not often baldly articulated, at least not by the courts, but no group is more jealous of its prerogatives than judges who decide what is and what is not appropriate for the arbitrator to decide.

⁷ *Id.* at 1080. Of course, this is not accurate since the Federal Arbitration Act, 9 U.S.C. § 7, provides for such discovery, but the fear persists.

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.* at 1091.

Having briefly touched upon the principal concerns of those who believe arbitration is incompatible with sound antitrust administration, we now proceed to a review of the principal cases concerning the arbitration—antitrust interface. Thereafter, we will return to these pros and cons in view of these competing policies.

III. Treatment by the Courts

When asked to compel arbitration or to stay court proceedings pending arbitration in cases involving antitrust issues, courts have generally reacted negatively. However, in limited situations they have also recognized other public policy considerations as important. Even so, the track record to date has been rather dismal.

In one of the earliest reported cases, *American Safety Equipment Corp. v. J. P. Maguire & Co.*,¹² the licensee (American Safety Equipment) had filed a declaratory judgment action against the licensor, Hickok Manufacturing, to have its license agreement, certain provisions of which were alleged to violate the antitrust laws, declared illegal and void. J.P. Maguire & Co., claiming to be assignee of licensor's royalty payment rights, sought arbitration against ASE pursuant to an arbitration clause contained in the license agreement. ASE countered with a declaratory judgment against Maguire.

Motions were filed by ASE to stay arbitration and counter-motions were filed by Hickok and Maguire to stay the declaratory judgment action pending arbitration. The motions to stay litigation were granted by the district court without a written opinion, hence, the reasons for granting the motions to stay were not clear. Presumably, the arbitration clause was broad enough to encompass the claims in dispute and the court did not find any public policy against arbitration in this type of dispute.¹³

On appeal, it was held that the antitrust claims of licensee ASE could not be submitted to arbitration. The touchstone was the public interest argument:

"A claim under the antitrust laws is not merely a private matter. The Sherman Act is designed to promote the national interest in a competitive economy; thus, the plaintiff asserting his rights under the Act has been likened to a private attorney-general who protects the public's interest. . . . Antitrust violations can affect hundreds of thousands—perhaps millions—of people and inflict staggering economic damage. Thus, in the recent 'electrical equipment' cases, there were over 1,900 actions, including over 25,000 separate damage

¹² 391 F.2d 821 (2d Cir. 1968).

¹³ *Id.* at 823.

claims, commenced by purchasers of equipment allegedly illegally priced. The purchasers in turn sold electricity to millions of consumers at rates presumably increased by the excessive costs. We do not believe that Congress intended such claims to be resolved elsewhere in the courts. We do not suggest that all antitrust litigations attain these swollen proportions; the courts, no less than the public, are thankful that they do not. But in fashioning a rule to govern the arbitrability of antitrust claims, we must consider the rule's potential effect."¹⁴

The court also relied on the contracts of adhesion rationale by noting that "for the same reason, it is also proper to ask whether contracts of adhesion between alleged monopolists and their customers should determine the forum for trying antitrust violations. Here again, we think that Congress would hardly have intended that."¹⁵

Another thing that troubled the court was its concern over the ability of the arbitration process to deal with complex antitrust disputes and the sympathy arbitrators might have toward the alleged wrongdoer:

"... [T]he issues of antitrust cases are prone to be complicated, and the evidence extensive and diverse, far better suited to judicial than to arbitration procedures. Moreover, it is the business community generally that is regulated by the antitrust laws. Since commercial arbitrators are frequently men drawn for their business expertise, it hardly seems proper for them to determine these issues of great public interest."¹⁶

The Ninth Circuit considered the same policy issues in *A & E Plastik Pak Co. v. Monsanto*.¹⁷ A&E was a licensee of technology from Monsanto under a license which provided that Monsanto would purchase fixed minimum quantities of the product resulting from use of the technology over a three-year period. Monsanto repudiated this obligation to purchase and after discussion of the issues, both sides appeared amenable to submission of the dispute to arbitration as provided by the agreement.

Four issues were presented for arbitration.¹⁸ Monsanto asserted that the arbitrator had to decide whether A&E had breached the license and whether Monsanto was justified in repudiating its obligation to purchase. On the other hand, A&E asserted that the arbitrator had to decide whether A&E had agreed not to sell the products

¹⁴ *Id.* at 826.

¹⁵ *Id.* at 827.

¹⁶ *Id.*

¹⁷ 396 F.2d 710 (9th Cir. 1968).

¹⁸ *Id.* at 712-13.

to third parties and whether proprietary information or "know-how" existed to support a valid license. After selection of arbitrators, but prior to arbitration, A&E filed suit claiming that Monsanto's interpretation constituted a violation of the antitrust laws. A&E sought a temporary injunction enjoining Monsanto from proceeding with arbitration, which was denied. On appeal, Monsanto urged that arbitration was proper since after the arbitration was completed, the arbitrator's opinion would then be subject to the scrutiny of the court with respect to the validity of A&E's antitrust attack.¹⁹

The Court of Appeals, citing *American Safety*²⁰ and a New York State court case,²¹ generally agreed with Monsanto but felt that unless there was "know-how" to support a license, no restriction on competition of the type contained in the disputed agreement could be justified as an ancillary restraint.²² Accordingly, the appellate court held that the district court had abused its discretion in permitting arbitration of this issue.²³

A later Ninth Circuit case, *Varo v. Comprehensive Designers, Inc.*,²⁴ dealt with the same issues. In *Varo*, the district court was held to have erred in staying determination of two antitrust claims while awaiting the results of arbitration of one arbitrable claim.²⁵ By way of contrast, in *Helfenbein v. International Industries, Inc.*,²⁶ the Eighth Circuit eschewed blind adherence while applying the general principles of these cases intelligently. The court in *Helfenbein* was confronted with a suit for an antitrust violation based on conduct under a franchise agreement, involving franchises in Missouri and Iowa. Though neither party urged that the final determination as to the validity of the franchise contract under the antitrust laws was arbitrable,²⁷ they disagreed as to the scope of arbitration in view of the antitrust claims. The issues to be arbitrated were:

"(1) unpaid balance of principal and interest on a promissory note executed by Robert J. Helfenbein; (2) unpaid and past due amounts on two equipment leases; (3) unpaid and past due rent on two subleases of restaurant premises; (4) unpaid and past due amounts

¹⁹ *Id.* at 716.

²⁰ *American Safety Equip. Corp. v. J.P. Maguire & Co.*, 391 F.2d 821 (2d Cir. 1968).

²¹ *Aimcee Wholesale Corp. v. Tomar Prods., Inc.*, 21 N.Y.2d 621, 289 N.Y.S.2d 968, 237 N.E.2d 223 (1968).

²² 396 F.2d at 716.

²³ *Id.*

²⁴ 504 F.2d 1103 (9th Cir. 1974).

²⁵ *Id.* at 1104.

²⁶ 438 F.2d 1068 (8th Cir. 1971).

²⁷ *Id.* at 1070.

for goods sold and delivered; (5) unpaid and past due management services fees; and (6) unpaid and past due advertising fees."²⁸

The plaintiff-franchisee did not question the arbitrability of these issues, rather, its concern was over being bound by an arbitration decision in Los Angeles which might deprive it of certain substantive benefits under state restraint-of-trade laws.²⁹ Thus, the plaintiff was resisting arbitration based on the logic of *American Safety Equipment Corp.* and *A&E Plastik Pak*.

Viewing the situation realistically, the Court of Appeals refused to prohibit arbitration when later court review was available. It said:

"The difficulty in reliance on these cases is, however, they in no way suggest an irreparable harm to plaintiffs so as to enjoin the arbitration procedure if needed. Once the matter is arbitrated, the sum so determined must still be pleaded in a court of competent jurisdiction and reduced to judgment to enforce collection. Plaintiffs may at that time urge whatever defenses to the arbitration award they might have under the antitrust laws."³⁰

One more appellate court decision is of interest to our survey. In *Cobb v. Lewis*,³¹ a franchisee brought a civil action for antitrust violations as a result of the franchiser's activity under a franchise contract which contained an arbitration clause. Since the district decision is reported,³² it sheds some additional light on the reasoning of the appellate court.

The first problem facing the district court was a conflict issue as to whether Georgia law or federal law based on the Federal Arbitration Act³³ governed. Georgia law had a strong public policy against agreements to arbitrate disputes which might arise in the future whereas federal law favored permitting arbitration.³⁴ Ruling in favor of federal law, the district court then turned to analyze the plaintiff's petition.

Though the court had to resolve a threshold issue of waiver since the plaintiff voluntarily submitted to arbitration,³⁵ it did so in order to reach the merits of the arbitration issue. Turning to the arbitrability of antitrust issues and analyzing the pleadings, the court felt that the bulk of the contract dispute turned on debt and fraud claims,³⁶ and not on an antitrust issue. With respect to the antitrust

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

³¹ 488 F.2d 41 (5th Cir. 1974).

³² *Cobb v. Network Cinema Corp.*, 339 F. Supp. 95 (ND Ga. 1972).

³³ 9 U.S.C. § 2.

³⁴ 339 F. Supp. at 97.

³⁵ *Id.* at 99. Perhaps this is one factor in the court's rationale for its decision.

³⁶ *Id.* at 101.

claims, the court felt that they had little chance of success since it appeared they were being used as a defense to an action on the contract.³⁷

On appeal,³⁸ this characterization of the suit was held erroneous. The Fifth Circuit Court of Appeals relied heavily on *American Safety Equipment Corp.*, *A&E Plastik Pak*, and *Power Replacement Inc.*,³⁹ in holding that the district court erred in granting a stay of litigation pending arbitration. Since the Appeals Court felt that the antitrust issues permeated the entire proceedings, arbitration was held improper.⁴⁰

It is to be noted that in each of the cases cited by the *Cobb* court, the appeal had been taken from a decision of a district court in favor of arbitration. Some of these lower court decisions are unreported, but one has to guess that a federal district judge when confronted with a heavy trial docket might look with skepticism upon a party's attempt to keep the case in litigation when the parties have previously agreed to arbitrate disputes arising under the contract.

The courts have thus adopted a somewhat anomalous position. On the one hand, they have been quite consistent in frowning on arbitration of future disputes, particularly antitrust related ones, based on public policy considerations. On the other hand, dogged adherence to this public policy consideration has caused the courts to lose sight of other important public policies they are charged with executing.⁴¹ The most obvious one which comes to mind is the public policy which favors settlement of existing disputes without result to full-blown litigation.

In the area of patent validity, an area interfused with virtually the same public interest as antitrust issues, courts have realized that a time must come when policy considerations involving judicial economy dictate an evaluation of the interplay of these considerations and the policy underlying the patent grant. One of the most clear recognitions of this problem and cogent statements of

³⁷ *Id.*, citing *Kelly v. Kosuga*, 358 U.S. 516 (1959).

³⁸ *Cobb v. Lewis*, 488 F.2d 41 (5th Cir. 1974).

³⁹ *Power Replacements, Inc. v. Air Preheater Co.*, 426 F.2d 980 (9th Cir. 1970). *Power Replacement* is discussed in the text at note 69 *infra*.

⁴⁰ It is worthwhile to note that in Georgia, where the suit was pending, "all questions" arbitration clauses are void under Georgia law as against public policy.

⁴¹ As two eminent judges in the Second Circuit have recently pointed out "public policy is a very unruly horse and when once you get astride it, you never know where it will carry you." *Friendly in Painton & Co. v. Bourns, Inc.*, 442 F.2d 216, 225 (2d Cir. 1971); *Weinfeld in Wallace Clark Co. v. Acheson Indus., Inc.*, 394 F. Supp. 393, 398 (S.D.N.Y. 1975), quoting *Richardson v. Mellish*, 2 Bing. 229, 252 (1824).

the issue is found in *Wallace Clark Co. v. Acheson Industries, Inc.*,⁴² in the following terms:

"In this court's view, a balancing of the relevant public interest factors requires that consent decrees containing adjudications of the validity and infringement, entered into without collusion, after the litigants have had the opportunity for pretrial discovery and a trial on the merits, be accorded *res judicata* effect. Such decrees should be of no less binding force than a judgment of validity and infringement entered after a trial on the merits. To hold otherwise would permit abuse of the judicial process, waste of judicial resources and reward questionable ethical conduct. These are all matters which also concern the public interest. To adopt the plaintiff's position would force every patent validity and infringement suit to a trial on the merits to assure a *res judicata* effect. It would discourage settlement of such litigation, since otherwise there could be no assurance of finality. Must this assurance come only as a result of a trial on the merits so that litigation is compelled to achieve an unassailable position? The public interest is not served by driving a patentee and an alleged infringer into extended litigation of a kind recognized by the Supreme Court as 'a very costly process,' entailing 'staggering' financial burdens upon the respective litigants where, even in a non-jury trial, 'an inordinate amount of trial time' is required."⁴³

A glimmer of hope in the arbitration-antitrust area is the approach taken by the Second Circuit in *Coenen v. R. W. Pressprich & Co.*⁴⁴ The action arose as a result of the alleged refusal by a member firm of the New York Stock Exchange to transfer stock free from a restrictive legend. The complaint included three claims for relief, the third count being an antitrust one. Defendant Pressprich, the member firm, answered the complaint by demanding arbitration pursuant to the Constitution of the New York Stock Exchange.⁴⁵

A motion by the defendant to stay the action pending arbitration was granted by the district court based on plaintiff's agreement on admission to membership to abide by the Rules and Constitution of the Stock Exchange, which Rules included a requirement for arbitration of disputes between members.⁴⁶ On appeal, the Circuit Court relied on this factor to distinguish the *American Safety Equipment* rule. Further, in permitting the entire dispute to be referred to arbitration, the court took note of the public policy implicit in the securities laws permitting securities dealers to establish self-governing rules to resolve disputes among themselves in order to keep such "breeder[s]

⁴² 394 F. Supp. 393 (S.D.N.Y. 1975).

⁴³ *Id.* at 400.

⁴⁴ 453 F.2d 1209 (2d Cir. 1972).

⁴⁵ *Id.* at 1211.

⁴⁶ *Coenen v. R.W. Pressprich & Co.*, 329 F. Supp. 1296 (S.D.N.Y. 1971).

of ill feeling" out of the courts.⁴⁷ On the other hand, in *Wilko v. Swan*⁴⁸ an agreement between a customer and a brokerage house to arbitrate disputes was held to be not binding on the customers under Section 14 of the Securities Act of 1933. Thus, litigation of the dispute between the parties was permitted.⁴⁹

The picture is not always negative. For example, the desirability of certainty in the performance of international business agreements has dictated a different result. *Scherk v. Alberto-Culver Co.*⁵⁰ involved a contract negotiated in the U.S. and several European countries with ongoing consultation with legal experts of these countries. Here the court permitted arbitration and, in doing so, illuminated the importance of the arbitration process to international business transactions:

"Such a contract involves considerations and policies significantly different from those found controlling in *Wilko*. In *Wilko*, quite apart from the arbitration provision, there was no question but that the laws of the United States generally, and the federal securities laws in particular, would govern disputes arising out of the stock-purchase agreement. The parties, the negotiations, and the subject matter of the contract were all situated in this country, and no credible claim could have been entertained that any international conflict-of-laws problems would arise. In this case, by contrast, in the absence of the arbitration provision considerable uncertainty existed at the time of the agreement, and still exists, concerning the law applicable to the resolution of disputes arising out of the contract.

"Such uncertainty will almost inevitably exist with respect to any contract touching two or more countries, each with its own substantive laws and conflict-of-laws rules. A contractual provision specifying in advance the forum in which disputes shall be litigated and the law to be applied is, therefore, an almost indispensable precondition to achievement of the orderliness and predictability essential to any international business transaction. Furthermore, such a provision obviates the danger that a dispute under the agreement might be submitted to a forum hostile to the interests of one of the parties or unfamiliar with the problem area involved.

"A parochial refusal by the courts of one country to enforce an international arbitration agreement would not only frustrate these purposes, but would invite unseemly and mutually destructive jockeying by the parties to secure tactical litigation advantages. In the present case, for example, it is not inconceivable that if Scherk had anticipated that Alberto-Culver would be able in this country to enjoin resort to arbitration he might have sought an order in France or some other country enjoining Alberto-Culver from proceeding with its litigation in the United States. Whatever recogni-

⁴⁷ *Id.* at 1215.

⁴⁸ 346 U.S. 427 (1953).

⁴⁹ *Id.* at 438.

⁵⁰ 417 U.S. 506 (1974).

tion the courts of this country might ultimately have granted to the order of the foreign court, the dicey atmosphere of such a legal no-man's-land would surely damage the fabric of international commerce and trade, and imperil the willingness and ability of businessmen to enter into international commercial agreements."⁵¹

It is to be noted that in a number of these arbitration-antitrust cases, arbitration is not completely forbidden.⁵² Rather, binding arbitration on the ultimate issue of the legality of the challenged business conduct is not permitted. However, arbitration of other disputed factual issues and areas of controversy pursuant to the arbitration clause of the contract is permitted.⁵³ The district court clearly has the discretion to control the sequence of events.⁵⁴ When arbitration is to be stayed, it is usually because the ruling on the antitrust dispute will be "outcome determinative" of the issues which would otherwise be submitted to arbitration.⁵⁵ Conversely, when the litigation is to be stayed pending arbitration, it is often justified because the number of disputed factual issues for ultimate decision by the court will be reduced.⁵⁶ Another basis given is that a party expecting the contractually promised benefits of inexpensive and quick determination of disputes by arbitration should receive what was promised.⁵⁷

The difficulties which ensue from rigid adherence to the proposition that antitrust issues are not appropriate for arbitration are amply demonstrated in several cases. They find the recalcitrant litigant—in his zeal to avoid a contract in which he agreed to arbitration—undercutting equally important public policies with

⁵¹ *Id.* at 515-17.

⁵² *American Safety Equip. Corp. v. J.P. Maguire & Co.*, 391 F.2d 821 (2d Cir. 1968); *A & E Plastik Pak Co. v. Monsanto Co.*, 396 F.2d 710 (9th Cir. 1968); *Varo v. Comprehensive Designers, Inc.*, 504 F.2d 1103 (9th Cir. 1974); *Buffler v. Electronic Computer Programming Institute, Inc.*, 466 F.2d 694 (6th Cir. 1972); *Overseas Motors, Inc. v. Import Motors Ltd.*, 375 F. Supp. 499 (E.D. Mich. 1974).

⁵³ *A & E Plastik Pak Co. v. Monsanto Co.*, 396 F.2d 710 (9th Cir. 1968); *Varo v. Comprehensive Designers, Inc.*, 504 F.2d 1103 (9th Cir. 1974); *Helfenbein v. International Indus., Inc.*, 438 F.2d 1068 (8th Cir. 1971); *Overseas Motors, Inc. v. Import Motors Ltd.*, 375 F. Supp. 499 (E.D. Mich. 1974).

⁵⁴ *A & E Plastik Pak Co. v. Monsanto Co.*, 396 F.2d 710 (9th Cir. 1968); *Buffler v. Electronic Computer Programming Institute, Inc.*, 466 F.2d 694 (6th Cir. 1972); *Overseas Motors, Inc. v. Import Motors Ltd.*, 375 F. Supp. 499 (E.D. Mich. 1974); *Black v. Econo-Car Int'l, Inc.*, 404 F. Supp. 600 (D. Mass. 1975).

⁵⁵ *A & E Plastik Pak Co. v. Monsanto Co.*, 396 F.2d 710 (9th Cir. 1968); *Varo v. Comprehensive Designers, Inc.*, 504 F.2d 1103 (9th Cir. 1974).

⁵⁶ *Black v. Econo-Car Int'l, Inc.*, 404 F. Supp. 600 (D. Mass. 1975).

⁵⁷ *Buffler v. Electronic Computer Programming Institute, Inc.*, 466 F.2d 694 (6th Cir. 1972).

the sword of antitrust.⁵⁸ The result is analogous to the old saw that "the operation was a success but the patient died!"

Two cases illustrate how attempts to force blanket application of the general rule⁵⁹ misserve virtually all of the policy considerations which have been discussed. They adumbrate all three—the public interest of the antitrust laws, the prompt resolution of disputes, and the need for judicial economy.

In *Overseas Motors, Inc. v. Import Motors, Inc.*,⁶⁰ the district court in Michigan had before it a suit involving the termination of an imported automobile franchise arrangement. It had to deal with a possible collateral estoppel by prior Swiss arbitration of the same dispute pursuant to an arbitration clause in the franchise contract.

The court noted that collateral estoppel by prior arbitration does not foreclose the antitrust plaintiff as a "private attorney general"⁶¹ of a "full and fair day in court"⁶² so long as the range of foreclosable issues is narrowed to protect this public interest.⁶³ The court erected a three-level structure for the evidence: ultimate facts (existence or non-existence of a conspiracy in restraint of trade), mediate data (existence or non-existence of a breach of the importer contract) and evidentiary facts (company shipped certain specific number of cars in one year, etc.).⁶⁴ The court stated that ultimate facts cannot be precluded by estoppel, while mediate and evidentiary facts might be precluded by estoppel depending on their importance to the case.⁶⁵

The court in a forty-six page opinion reviewed the thirty-five findings of the foreign arbitration panel, finding seven so intimately connected with antitrust issues that estoppel was not permitted, seventeen of the findings inappropriate for estoppel for reasons other than public policy, and eleven findings to be precluded to the antitrust plaintiff by reason of collateral estoppel.⁶⁶ Regardless of whether the three-tier heuristic model was correct or its application to the issues and facts properly handled, it is important to note that this opinion was written after the Swiss arbitration and the presenta-

⁵⁸ It can be seen that the party resisting arbitration often does so for reasons unrelated to the policy considerations that are usually raised when the arbitrability of antitrust issues is proposed.

⁵⁹ Usually by one of the parties, not by the court.

⁶⁰ 375 F. Supp. 499 (ED Mich. 1974).

⁶¹ *Id.* at 520.

⁶² *Id.*

⁶³ *Id.* at 521.

⁶⁴ *Id.* at 519.

⁶⁵ *Id.* at 524.

⁶⁶ *Id.*

tion of five weeks of evidence at trial by the plaintiff but prior to the close of plaintiff's case.⁶⁷ Apparently, the court acted after it learned from counsel that some fifteen depositions and several hundred exhibits remained to be introduced by plaintiff and that defendants planned to present a motion for directed verdict at the close of plaintiff's proofs. In desperation, the court directed a verdict for defendants.⁶⁸ It is quite clear that the whole process made a shambles of the goal of arbitration to effect a prompt resolution of business disputes. Better use needs to be made of judicial and arbitral manpower than occurred in this case though the solution is not readily apparent.

In the second case, *Power Replacements, Inc. v. Air Preheater Co., Inc.*,⁶⁹ the dispute was again between a party claiming antitrust violation as a result of a contract having an arbitration clause and the other party to the contract. Though *Power Replacements* followed closely on the heels of the *A&E Plastik* case, there were some significant differences in the factual setting. First, the agreement in question was executed as a settlement agreement of a pending private antitrust action brought in California by Power Replacements against Air Preheater.⁷⁰ Second, the agreement defined specific obligations as to how the parties were to regulate their activities in order to insure compliance with the antitrust laws. Finally, an arbitration clause, limited to alleged violations of the specific obligations vis-à-vis antitrust laws, and limited in time to the first two years after the agreement was entered into was included.⁷¹

When a dispute thereafter arose, Power Replacements sued Air Preheater in the federal court in Pennsylvania, alleging an antitrust violation by a company recently organized by Power Replacements for the purpose of competing in the eastern U.S. with Air Preheater.⁷² Prior to the institution of the suit, Air Preheater submitted a demand for arbitration of the dispute pursuant to the contract and the demand was promptly denied by Power Replacements. The Pennsylvania suit followed.

Not content with the Pennsylvania suit, Power Replacements then filed suit in the state court in California for rescission of the settlement agreement, damages and injunctive relief. After re-

⁶⁷ *Id.* at 525.

⁶⁸ *Id.* at 545.

⁶⁹ 426 F.2d 980 (9th Cir. 1970).

⁷⁰ *Id.* at 981.

⁷¹ *Id.*

⁷² *Id.* at 982.

moval of the California proceeding to federal court, the Pennsylvania arbitration proceedings were transferred to Los Angeles with no concession of jurisdiction to arbitrate being made by Power Replacements. On cross-motions as to whether arbitration or litigation was proper, the district court stayed litigation and denied the motion to abate arbitration.⁷³

On appeal, Air Preheater urged three distinctions from the *A&E Plastik Pak* litany. It was said that the cases on appeal:

"(1) . . . involved general arbitration clauses and not a specific agreement to arbitrate an antitrust claim; (2) did not involve an agreement to arbitrate after a controversy had already arisen; and (3) since the parties could resolve the dispute by settlement, they could also do so by arbitration."⁷⁴

The appellate court, relying heavily on *American Safety Equipment* and *A&E Plastik Pak*, upheld arbitration only as to claims which were in existence at the time of the agreement. Any antitrust violations which were alleged to have occurred after the date of the agreement were held improper for arbitration. The court said that "controlling is the fact that the parties agreed to arbitrate antitrust claims which were not in existence and the nature and effect of which were unknown when the agreement was made."⁷⁵

Again, quite aside from the question of whether the court was correct on the line of demarcation between litigation and antitrust and whether it applied the line properly to the facts, the decision was handed down nearly five years after the date of the original settlement agreement. Better use of judicial manpower and the resources of the parties to the dispute could be made. Rather than expediting the disposition of the parties' controversies, the arbitration conflict delayed it still further.

IV. Theory and Reality

We have previously dealt in some detail with the reasons offered by those who oppose the arbitration of antitrust disputes and documented the almost inflexible adherence of the courts to the policy underlying these concerns. Another policy which has to concern anyone involved in the day-to-day operation of our judicial system is the overly long delays in getting a case to trial. The old maxim "justice delayed is justice denied" expresses a fundamental

⁷³ *Id.*

⁷⁴ *Id.* at 984.

⁷⁵ *Id.*

truth. In theory, the courts may be correct in disfavoring the arbitration of antitrust issues, but let us look at this option in the cold, clear light of reality.

All are aware of the crowded state of the dockets in the federal courts, the priority as between criminal and civil cases, and the complexity and length of most antitrust litigation. Title 18 of the United States Code has recently been amended by the enactment of the Speedy Trial Act⁷⁶ to impose relatively narrow time limits on both prosecution and defense. The effect of these time constraints are felt by those of us who handle principally civil cases since civil litigation is suffering because courts have to meet the criminal time limits imposed by the Speedy Trial Act. The problem is even more acute when we consider the fact of complex civil cases such as private treble damage antitrust claims and patent infringement actions. These types of cases generally take longer to develop the facts and formulate the issues, they often involve discovery disputes, the preparation of secrecy orders and the taking of extensive depositions. With the federal judiciary required to give priority to criminal cases, the availability of judges to try civil suits and to resolve pre-trial discovery disputes is becoming the exception rather than the rule. Even if new federal judges are appointed and existing vacancies filled, the problem will continue to be a major one.

One Massachusetts district court judge clearly articulated the problem when he was urged to stay the court proceedings in an antitrust suit⁷⁷ in order to permit arbitration and the plaintiff resisted, claiming that the court's unique ability to compel discovery and grant injunctive relief was necessary to protect the plaintiff. He said:

"Plaintiffs' argument that 'immediate discovery and a speedy resolution of the claims against these defendants is required in a single forum which has power to grant injunctive relief' is obviously premised on the assumption that this Court is in a position to supply immediately a forum for determining this complex antitrust claim which necessitated 42 pages merely to state the cause of action. This assumption, in view of the present state of the docket of this Court, which now enjoys the dubious distinction of having the longest median time from filing to disposition of civil cases of any United States District Court, is gratuitous, contrary to fact and simply wishful thinking. This is presently true and will become even more so as the provisions of the Speedy Trial Act of 1974 become more stringent between now and June 30, 1979. The judges of this Court, acting pursuant to its present Rule 50(b) plan for speedy trials, are

⁷⁶ 18 U.S.C. § 3161, *et seq.*

⁷⁷ *Black v. Econo-Car Int'l, Inc.*, 404 F. Supp. 600 (D. Mass. 1975).

now required to devote more than three quarters of their in-court time to criminal trials, motions and dispositions. Some members of the Court have tried few, if any, civil cases since last spring because of the pressure of the criminal docket and it appears extremely unlikely under the pressure exerted by the Speedy Trial Act of 1974 to further accelerate criminal trials, and in view of the priorities which must be accorded to habeas corpus, civil rights and emergency injunctive matters, that any protracted civil cases will be assigned for trial in this Court in the next few years unless there is a substantial augmentation both of judicial manpower and supporting personnel."⁷⁸

Business executives are generally interested in a prompt determination of the legality and propriety of present or proposed courses of business conduct with minimum expense. Arbitration affords the advantages of saving time and money. However, in the antitrust area the federal courts have limited the availability of arbitration, so delay is the rule and the expense is excessive.

With the current backlog of cases and the emphasis on criminal cases, one of the prime reasons for opposing the arbitration of antitrust disputes, namely the special capacity and capability of the courts to deal with such complex litigation, is fine in theory but no longer valid practice. At present, the expertise of the courts in directing discovery, hearing extensive testimony and reviewing documentary evidence, and in providing a sophisticated analysis of complex issues is in short supply. The unavailability of judges delays decision in these cases at the forefront of business conduct, hence we are undermining the most basic of judicial administration tenets—the public interest in the prompt resolution of disputes.

V. Policy Considerations Revisited

We have already discussed and evaluated the policy considerations which have been raised in opposition to the arbitration of antitrust disputes. The primary reasons against arbitration are: (a) the parties to the arbitration agreement were not aware of the public policy ramifications of any antitrust disputes when they agreed to arbitrate; (b) the capacity and capability of the arbitration process cannot cope with the complex issues involved; (c) arbitration provisions are most often used by parties of superior economic strength to avoid judicial scrutiny of their conduct; and (d) the finality of an arbitrator's decision without the use of written opinions prevents the

⁷⁸ *Id.* at 601-02.

development of precedents. Let us look now with a more jaundiced eye at the policy reasons against the arbitration of antitrust disputes.

The proposition that the parties entering into a contract having an arbitration clause did not contemplate arbitration of future antitrust claims or of the waiver of their right to have a court resolve their disputes is a straw-man. It could be just as well argued that the parties opted for arbitration based on prior unsatisfactory experiences in litigation or due to concern over costs, time delays, the fees and formalities of court proceedings.⁷⁹ Even conceding that public policy considerations of the antitrust laws must outweigh the expectation of the parties that they will be allowed to arbitrate antitrust-related disputes, there is nothing to compel the parties to litigate any such dispute to the bitter end. There is a strong public policy which favors the amicable resolution of disputes—without judicial intervention.

The willingness of the courts to permit enforcement of agreements to arbitrate disputes entered into after the dispute has arisen permits virtually the same result as arbitration pursuant to a contract calling for the arbitration of future disputes. It is permissible for the parties to agree, absent collusion or misrepresentation to the court, that a suit will be filed, a settlement agreement entered into which provides for all disputed issues to be resolved by arbitration and further arbitration process to proceed. Courts in this situation typically respect the wishes of the parties. Why, then, not permit the parties to commit to this course of conduct in the future?

We have seen that even in situations where parties rely on a broad agreement in advance to resolve "all" disputes and antitrust issues are involved, the courts do not always completely forbid arbitration. Rather, the courts can and do permit the parties to arbitrate certain issues even where an alleged antitrust violation is involved.⁸⁰ The major decision then becomes which is to occur first—arbitration or litigation. Since it is within the court's discretion as to which is to be given priority, exceptions to arbitration first can always be fashioned when the need dictates.⁸¹ As discussed previously, however, often the unwillingness of a party to arbitrate is due to factors unrelated to the capability of the arbitrators or the impartiality of the arbitration process.⁸²

Concerning the capacity of the arbitration panel to deal with

⁷⁹ NYU Symposium, note 1 *supra* at 1098-99.

⁸⁰ See cases cited in notes 52-55.

⁸¹ *Id.*

⁸² See note 58 and text at notes 6-10.

antitrust issues, there are several answers. First, there are numerous experts in the field of antitrust law who might be willing to serve as arbitrators.⁸³ The American Arbitration Association could surely formulate a panel of people of recognized integrity and experience so that any arbitrator chosen would be equal to the task.

Concerning the "contracts of adhesion" objection to arbitration, everyone is aware that a significant number of contracts entered into every day in the business world are between parties of unequal economic strength.⁸⁴ There is no reason to single out arbitration clauses in such contracts for non-enforcement, absent a showing of coercion or fraud in the inducement to include an arbitration provision in the contract. It disregards the wishes of the parties for no reason other than the courts antipathy to the arbitration approach to conflict resolution.

The argument that arbitrators are too little concerned with precedent is somewhat weakened by the fact that the bulk of new developments in antitrust law are not by way of statutory revision but the result of a case-by-case interpretation of the broad policy guidelines laid out in the antitrust laws. Further, as has been pointed out by others,⁸⁵ the inability of the arbitrator to compel production of documents is not as significant a problem as would appear at first blush. With certain revisions which we will discuss in greater detail, it appears that the concern over the capacity and capability of arbitrators to deal with antitrust issues is over-emphasized.

VI. A Modest Proposal

Despite the dangers that conventional commercial arbitration may pose for the proper enforcement of our antitrust laws, there has to be a way to cut the Gordian knot of delay and uncertainty imposed upon many members of the business community as they wait for guidance from courts too busy trying to comply with the Speedy Trial Act to provide prompt resolutions of business disputes. What we propose is a modification of commercial arbitration principles which would permit the parties to use arbitration advantageously yet, at the same time, insure that the concerns expressed by opponents of the arbitration of antitrust disputes are given adequate consideration. The alternative is to stand pat and do nothing on the theory that commercial arbitration as we now know it is not adapted

⁸³ NYU Symposium, note 1 *supra* at 1100-02.

⁸⁴ *Id.* at 1102.

⁸⁵ *Id.* at 1101.

to antitrust policy objectives even though we know the courts are not in a position to provide prompt and inexpensive resolution of what are, in many cases, marginal antitrust violations. It seems better to us for both sides to "give a little and get a little" so that they can meet on a middle ground which will satisfy the basic concerns in both areas of law.

A plan to use arbitration to resolve antitrust disputes requires four areas of change in current arbitration practices. First, we must provide arbitrators who are knowledgeable of and experienced in the various legal and technical problems of antitrust law. Second, we need to give the arbitrators the authority to invoke the court's power to compel discovery to develop facts fully before a decision is made on the disputed issues. Third, we must require the arbitrator not merely to reach a decision for one party or the other but to set forth in some form his findings of fact and legal authority which he applies to the facts to reach his decision. And, fourth, we must provide a form of review by courts which will catch any substantial errors in the applicable legal principles which are applied to the facts before the judgment becomes final. Of course, some will say that if the arbitration of disputes is modified to the extent we propose, it is no longer arbitration. But we believe that a modified arbitration procedure can be adapted to the problems of antitrust to provide a resolution of an impasse. Both sides are increasingly dissatisfied with their alternatives and yet both seem powerless to do anything about them.

As to the first requirement for a modified arbitration procedure, it is absolutely essential that arbitrators of experience, skill and integrity be provided. It is mandatory that the arbitrators are lawyers who have knowledge of and experience in antitrust issues. This is, of course, a substantial departure from conventional arbitration where the panel of arbitrators will include lawyers, businessmen or other persons having knowledge of the trade and industry in which the arbitration arises. In connection with a public policy arena like antitrust, we must depart from this to provide arbitrators who do have the legal skills to recognize the proper legal principles that govern the disputed issues and the experience to apply them with reasonable clarity to the facts arising in the dispute in question. By this approach, we will allay the proper concerns of courts and commentators who disapprove of the concept of using arbitration to resolve antitrust-related issues.

There is little doubt that arbitrators having the necessary background and training can be found, indeed one can think of numbers

of experienced antitrust lawyers who can be pressed into serving as arbitrators in connection with such public interest issues that arise between private parties.⁸⁶ The real concern is not in finding arbitrators capable of dealing with complex issues substantively but in deciding on the procedural ground rules under which they should operate. A panel of such experienced lawyers which might be put together by the American Arbitration Association, would gain experience in handling private antitrust disputes as it went along. Thus, the panel would be able to operate more and more efficiently and effectively.

As to the second requirement of the modified arbitration scheme, it would be essential to provide authority to arbitrators to compel the production of documents and the attendance of witnesses at depositions. Some power is given to arbitrators under the present Federal Arbitration Act,⁸⁷ but to the extent that these are inadequate, and indeed they would be, Congress must give arbitrators an expanded power to develop the factual background of a dispute so that a reviewing court can assess the appropriateness of the legal principles to the essential facts in dispute.

With regard to the nature of the arbitrator's decision and the rationale for that decision, naturally, this also marks a departure from commercial arbitration principles. In the latter, the whole purpose is to provide an arbitrator who listens to the facts, makes a decision without a written opinion and thereby finally and quickly concludes the dispute between the parties to the agreement.

In view of the public policy concern over the arbitration of antitrust issues, it is obvious that some additional safeguard has to be provided to make certain that the arbitrator is applying a reasonable facsimile of antitrust law to the facts in dispute. This can be accomplished by requiring the arbitrator to provide a written opinion in which he states the applicable legal principles, summarizes his findings and identifies the documents and depositions which he relied on, and applies the legal principles to the facts in order to reach his final conclusion.

One can, of course, say that to provide this form of "mini-judicial" proceeding will emasculate the whole arbitration process, that it will really constitute a glorified magistrate proceeding. Indeed, in many ways it will. But the hallmark of this modified proposal is the informality in the way the arbitrator makes his decision, the promptness

⁸⁶ *Id.* at 1100.

⁸⁷ 9 U.S.C. § 7.

with which arbitrators can consider the disputed issues and resolve them and the bottom-line fact that in most cases the parties will be satisfied to have some resolution of the dispute promptly even though in some instances the resolution may not be entirely to their liking.⁸⁸

It is not our intention here to detail the exact guidelines which would have to be followed by the arbitrator in writing his decision but, at a minimum, it would require him to indicate the legal authority he relies on, the factual contentions and facts as he finds them and, very briefly, the decision he reached by the application of the law to these facts themselves. A record has to be generated which will insure that a reasoned and impartial judicial review can be had if the arbitrator's decision is challenged by one of the parties. Though this approach eliminates the advantage of finality which is one of the current plus factors, it is a price we have to pay in order to adapt arbitration to a public policy oriented area of law such as antitrust. It also has to be remembered that a review will not occur unless the losing party asks for the review. In many cases, the losing party might find it in his best interest to be content with the determination, regardless of whether it gives him everything he wants.

As to the question of judicial review of the arbitrator's award and decision, several means could be used for defining the scope and nature of the review. Of course, there are some already provided which might be expanded to provide the kind of judicial review needed here. For example, in a recent revision to the antitrust laws it is provided that when a consent judgment is to be entered in an antitrust case to which the government is a party, a "Competitive Impact Statement" has to be provided to assist the court in ascertaining the effect the consent judgment will have on competitive conditions in the industry.⁸⁹ In making such a determination, the court is empowered to take testimony as well as appoint a special master or outside consultants, hear expert witnesses, etc. as it deems appropriate.⁹⁰ Further, the court may request the views of individuals,

⁸⁸ 15 U.S.C. § 16(e). Of course it is possible that the critics of this expanded use of an arbitration-type proceeding will eat up all of the time which otherwise might be saved by arbitration, thus creating just as many problems of judicial review as in the current situation where the courts are the final arbitrators. Until we try some middle ground between commercial arbitration and court adjudication of antitrust issues, however, we will never be able to assess whether or not there is a middle ground which will serve both interests and the overall public interest of expediting the resolution of commercial disputes and doing so with an eye to the requirements of antitrust law.

⁸⁹ 15 U.S.C. § 16(h).

⁹⁰ 15 U.S.C. § 16(f)(1).

groups or agencies of the government with respect to those aspects of the proposed judgment which concern the court.⁹¹ Additionally, the Manual For Complex Litigation provides that in exceptional circumstances, a court may appoint experts to assist it in the evaluation of any proposed settlement agreement.⁹²

Along a somewhat different tack, it is also well known that courts have in the past permitted cases before them to be referred to special masters for determination of the issues not agreed to by the parties. See, for example, the decisions in *de Costa v. Columbia Broadcasting Systems, Inc.*,⁹³ *Kimberley v. Arms*,⁹⁴ and *Hecker v. Fowler*.⁹⁵ Any of these techniques, or some new combination of them, could be used to provide the kind of review and evaluation desired by the courts.

In addition, standards for review will have to be established with some precision. It is our view that the proper approach to the review of arbitration awards under this modified procedure is to review the overall record to determine whether there is substantial evidence in the record to support the arbitrator's conclusion and award. It almost goes without saying that it will not be possible to use current commercial arbitration standards since these do not allow review of the substantive issues but merely those relating to the jurisdiction of the arbitrator and the appropriateness of arbitration under the agreement in question.⁹⁶

The fact findings of the arbitrator, absent a clearcut showing of bias, prejudice or error, should be accepted under some form of "clearly erroneous" rule.⁹⁷ Naturally, careful attention would have to be given to the kind of guidelines which are promulgated and the nature and scope of the review permitted each time an arbitration award on an antitrust-related issue comes before a court.

⁹¹ 15 U.S.C. § 16(f)(2). See generally, Renfrew, "Negotiation and Judicial Scrutiny of Settlements in Civil and Criminal Antitrust Cases," 70 F.R.D. 495 (1976).

⁹² For example, see the substance of Form 1.46 in Appendix of Manual for Complex Litigation.

⁹³ 520 F.2d 499 (1st Cir. 1975).

⁹⁴ 129 U.S. 512 (1889).

⁹⁵ 69 U.S. (2 Wall) 123 (1864).

⁹⁶ Under 9 U.S.C. § 9, upon application by a party seeking confirmation of an arbitration award, the court must grant an order confirming the award unless certain limited exceptions set forth in Sections 10 and 11 of Title 9 of the U.S. Code can be proven.

⁹⁷ See Fed. R. Civ. P. 52(a) and 53(e)(2). See further, Silberman, "Masters and Magistrates Part II: The American Analogue," 50 N.Y.U. L. Rev. 1297 (1975).

VII. Conclusion

In sum, what we propose is a modified form of commercial arbitration which requires that there be a written opinion and determination by an experienced arbitrator with meaningful judicial review to prevent the more obvious and apparent errors in the arbitration decision-making process from occurring. By following this modified form, we believe we can obtain most, if not all, of the advantages commercial arbitration offers while not sacrificing the public interest in seeing that the antitrust laws are faithfully executed.

It is our view that unless the proponents of commercial arbitration as it is now known are prepared to compromise their principles where the public interest arena is deeply involved in a dispute between private parties, we will not be able to fashion a new form of arbitration adapted to the peculiar requirements of the private-public interface. By the same token, unless those who favor exclusive use of the courts to determine violations of the antitrust laws are willing to modify their position to some extent, we will continue to have a situation in which in theory the courts ultimately make all the decisions but which, in fact, finds justice often denied or delayed for long periods of time due to the press of other business in the courts.

The dangers to the public in the enforcement of antitrust disputes by private arrangements should not turn on whether the parties had previously agreed to submit such disputes to arbitration or agreed after the dispute arises. Moreover, whether we are providing arbitration to settle antitrust disputes or letting the parties to litigation settle their differences and memorialize the settlement in a consent judgment with the court's imprimatur thereon, makes no difference. Opportunities are present for mistakes and miscalculations. There is a strong likelihood that the public interest will not always be served and, yet, both will serve the important function of resolving disputes promptly. The arbitration approach should be given a chance for our options are fast running out. Salvation in the form of the perfect solution may occur in the long run but as one famous economist reminds us, there is only the short run for in the long run "we are all dead!"

The Inventor Profile

One of a series of monographs based on the PTC—Academy of Applied Science Inventor Profile Research Project. See IDEA, Volume 18 #2, pp. 45-54, and James F. O'Bryon thesis therein referred.

The Foreign Inventor

There has been a great deal of debate over foreign participation in the U.S. Patent System. The results of this study confirm the observations made by others. There was a significant increase between 1968 and 1973 in the percentage of patents granted to foreign inventors—22% in 1968 to 31% in 1973.¹ In absolute numbers, while the number of patents granted to American inventors increased from 46,000 in 1968 to 51,000 in 1973, the number of patents granted to foreign inventors rose from 13,000 to 23,000.

These data points fit very closely with the long term near linear growth of foreign participation in the U.S. patent system reported by Dent² and reproduced in Figure 1.

This growth has been concentrated largely in four countries. West Germany, Japan, France and the United Kingdom account for more than half of the foreign applications. This is illustrated in Figure 2.³ The percentage growth of these four nations parallels

¹ Based on the place of residence of the inventor as listed in The Official Gazette of the Patent Office.

² Dent, Frederick B. Technology Assessment and Forecast: Early Warning Report, Office of Technology Assessment and Forecast, December, 1973, p. 3.

³ Based on data from this study and The International Economic Report of the

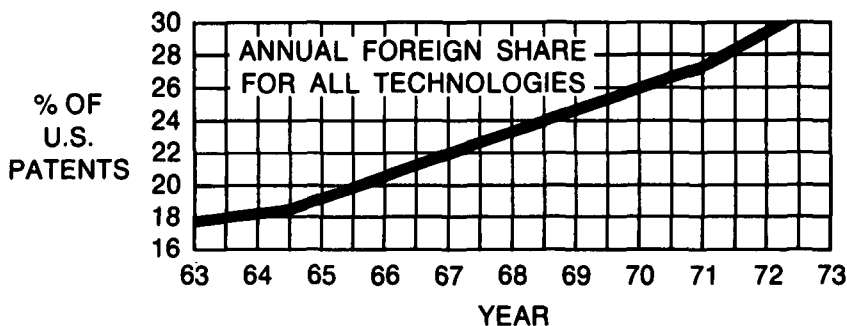


FIGURE 1

their relative economic growth and magnitude as can be seen by taking a median year such as 1971 and comparing the patent activity of each nation with its Gross National Product. This data is reproduced in Table 1.⁴

There are cases of even more dramatic growth in the use of the U.S. Patent System. While the 1968 to 1973 growth of the above four nations rose 36% (from 14.5% to 19.8%), the weighted average growth of other Western European nations was 57% (from 4.6% to 7.2%); Canadian participation rose 67% (from 1.2% to 2.0%); and the number of patents granted to inventors from the U.S.S.R. and Eastern European nations, although small in number, doubled (from 0.4% to 0.8%).⁵ There was an insufficient sample to analyze the trends for the smaller industrialized and "emerging" nations.

With respect to inventions per inventor, the foreign inventor and the U.S. inventor are remarkably similar. Figure 3 shows a comparison of the number of U.S. patents held by 50 foreign inventors and 220 American inventors.

Details of pending patents are generally not open for public scrutiny so the following data is especially significant. Inventors were asked to specify the number of U.S. patents they now have pending. The results shown in Table 2 indicate a sharp increase in the number of patents pending per inventor from foreign nations vis-a-vis the American inventor.

This data makes it apparent that foreign inventors are more actively pursuing U.S. patents than their American counterparts.

President, U.S. Council on International Economic Policy, February 19, 1974, p. 72.

⁴ *Ibid.* p. 91.

⁵ Based on the sample taken during this study.

TABLE 1

NATION	GNP 1971 (\$ BILLIONS)	% U.S. PATENTS	NO. U.S. PATENTS	PATENTS/ GNP (\$B)
JAPAN	256	5.0	3900	15.2
FRANCE	177	2.8	2200	12.4
UNITED KINGDOM	147	4.3	3400	23.1
WEST GERMANY	235	7.2	5600	23.8

TABLE 2

PROJECTED PATENT PORTFOLIO OF AMERICAN
AND FOREIGN INVENTORS (U.S. PATENTS ONLY)

PATENTS PENDING/INVENTOR	AMERICAN	FOREIGN
NONE	46%	29%
ONE	15%	14%
TWO	12%	10%
THREE-FIVE	7%	17%
SIX-TEN	15%	20%
>TEN	5%	10%

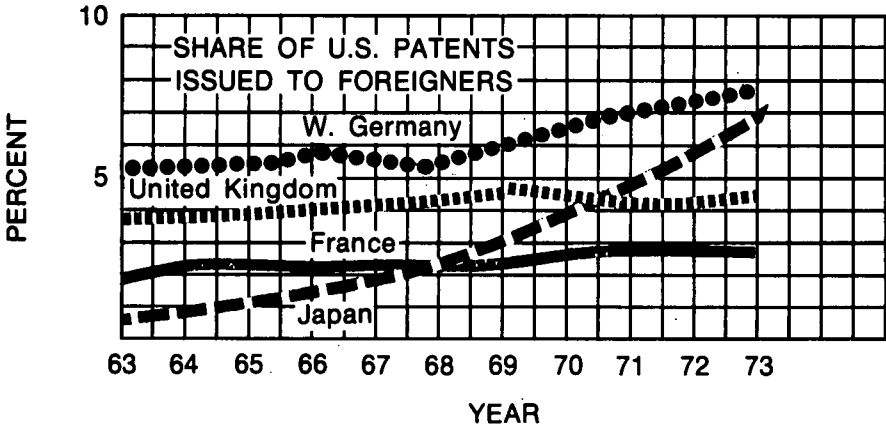


FIGURE 2

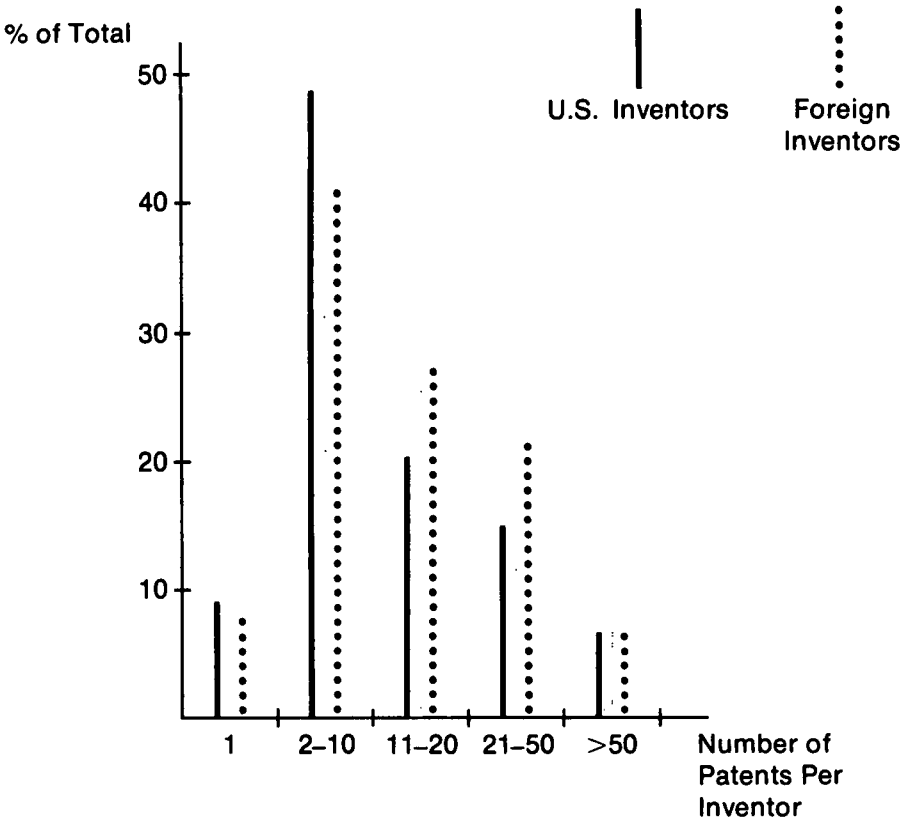


FIGURE 3
DISTRIBUTION OF PATENTS PER
AMERICAN AND FOREIGN INVENTORS

The average number of patents pending for American inventors was 2.6 while foreign inventors averaged 4.0 patents pending. Nearly half of the U.S. inventors polled stated that they were not currently involved in any patent applications while only 29% of foreign inventors were inactive. Among the foreign inventors surveyed, Japanese inventors were by far the most active and prolific patent applicants with an average of 7 patents pending per inventor. This level of activity seems to be an extrapolation of the overall trend of Japanese activity illustrated in Figure 2.

Patent activity represents a highly significant measure of technological activity.⁶ If the number of patents issued in a given area is growing rapidly, the assumption may be made that technological advance in that area is being actively pursued. Moreover, since the cost of filing multiple applications to gain patent protection in a number of countries is high, multiple patents are normally sought only for the more significant inventions and primarily in those countries where the invention is expected to be most profitable. Therefore, those areas of technology in which a high proportion of U.S. patents issue to foreign inventors take on even more significance. As seen in Table 3, foreigners, as a whole, patent more often in the categories of electrical and chemical inventions than their American counterparts. Forty-eight percent of all foreign-originating patents were in these categories as compared with 39% for American inventors. West Germany accounted for the highest proportion of electrical and chemical patents: 20% and 34% respectively. Japan, a close second, had a total of 53% of its patents in the chemical and electrical fields. Electrical patents accounted for 33% of its patents (double the U.S. average) while chemical patents accounted for 20%. France and the United Kingdom had patent patterns consistent with the U.S.

Figure 4 gives a more detailed comparison of U.S. and foreign patents by subject matter. It again reveals that foreign inventors are patenting in the areas of "higher technology" more frequently than U.S. inventors.

The Early Warning Report of the Office of Technology Assessment and Forecast⁷ states that in some areas of technology, foreign residents are obtaining over 80% of all U.S. patents. Table 4 is drawn from this report and shows some of the specific areas of greatest foreign participation. The bulk of these patents are in the

⁶ Note 2, *Supra*, p. 271.

⁷ *Ibid.*

TABLE 3

U.S. PATENTS

INVENTION CLASSIFICATION VS. SOURCE:

FOREIGN VS. DOMESTIC

CLASSIFICATION	FOREIGN	DOMESTIC	TOTAL
GENERAL/MECHANICAL	52.3%	61.0%	58.7%
ELECTRICAL	19.8%	15.9%	16.9%
CHEMICAL	27.9%	23.2%	24.4%

TABLE 4
FOREIGN SHARE OF PATENTS IN AREAS OF HIGH
TECHNOLOGY (1973)

RANK	AREA	FOREIGN SHARE
1	Manipulation of Weft Drawn from a Stationary Package	85%
2	Electrically Operated Camera Shutters	80%
3	Piezoelectric Compositions	78%
4	Certain Anthraquinone Compounds	78%
5	Purification of Molten Iron	77%
6	Preparing Cast Iron	74%
7	Magnetic Field Responsive Resistors	72%
8	Non-linear Rods, Strands and Fibers	72%
9	United-Needle Knitting Machines	70%
10	Accelerator Responsive Automatic Transmission	69%
11	Light Sensitive Silver Compositions with Processing Ingredients	66%
12	Formaldehyde Polymers	63%
13	Automotive Fuel Control Devices	61%
14	Superconductors	60%
15	Film Roll-Holding Devices for Cameras	60%
16	Fuel Injection Pump Apparatus for Internal Combustion Engines	57%
17	Homopolymers of Certain Vinyl Halides	56%

18	Fluid Pressure-Driven Metal Forming Apparatus	55%
19	Textile Twisting with Fluid Jet	55%
20	Certain Copolymers Prepared from Unsaturated Halo-Hydro-carbon Monomers	54%
21	Ground Effect Machines	54%
22	Forming a Composite or Stratified Article of Indefinite Length from a Plastic or Non-Metallic Material	53%
23	Structurally Defined Rods, Strands or Fibers	52%
24	Making Strands from Synthetic Fibers	52%
25	Semiconductor Internal Structure	52%
26	Magnetic Sound Recording and Reproducing Structures	52%
27	Polyamide Resins Derived from Amino Carboxylic Acids	50%
28	Magneto-Hydrodynamic Generators	49%
29	Ignition Timing Control for Internal Combustion Engines	49%
30	Electrical Generator Voltage Regulation	49%

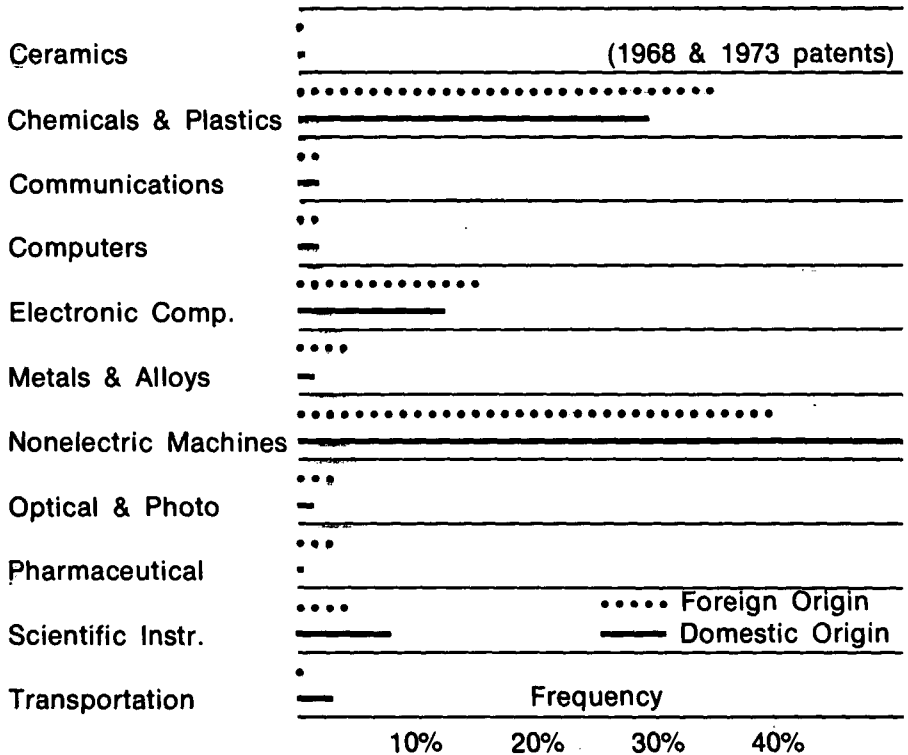


FIGURE 4
NATIONAL ORIGIN OF U.S. PATENTS BY
NATIONAL SCIENCE FOUNDATION CLASSIFICATION

areas of electronic components, chemicals and plastics, metals and alloys and optical/photographic. The report also projected the increase of the foreign share in these high technology areas. The mean unweighted increase projected by the Office of Technology Assessment over all 30 areas was from 61.8% in 1973 to over 80% by 1977. The projected average foreign share of U.S. Patents issued for all technologies is 33% in 1977!

Notes on PTC Progress

European Patent Law Seminar

We are pleased to announce a three-week program on European Patent Law which will be held at the Centre d'Etudes Internationales de la Propriété Industrielle of Strasbourg Université, our sister law school in Strasbourg, France. The conference will be held in two segments. The first two weeks are from September 19, 1977 to September 30, 1977 and will concentrate on "How to Obtain A European Patent." The second session will be a one-week program from December 12, 1977 to December 16, 1977 and is entitled "Determining A Patent Policy in Europe."

Texts of the conferences will be available in three languages (English, French and German). There will also be simultaneous translation of discussions in the same three languages. The fees are 3,000 French francs for the initial two-week program, 1,500 French francs for the December program, and 4,000 French francs for the full course.

The two-week program will begin with a discussion of the filing requirements for the various types of European patents. There will then follow several more detailed programs on such topics as the sufficiency of description, possible conflicts arising due to unpublished prior rights, the interpretation of claims, and language problems.

During the second part of the program, which will be held in December, the discussions will center on the nature of invention, the market for invention, the possibility of trade secrets as an alternative to patents and how these factors may influence the type of patent sought. Of particular interest to many of our members may be the discussion of the costs of each of the different type of patents that can be obtained in Europe today.

Detailed programs and application forms may be obtained from C.E.I.P.I., Université des Sciences Juridiques, Politiques, Sociales et de Technologie, Place d'Athènes, 67084 STRASBOURG CEDEX, FRANCE

Other Institutional Programs

In the course of the past semester, the PTC, in conjunction with the Student Entrepreneurial Workshop Program, has conducted a

number of research projects with other educational and research institutions.

Carnegie Mellon University—A group of Law Center students, including one who spent the semester at Carnegie Mellon, developed a number of projects with the people at the Carnegie Mellon Center for Entrepreneurial Development (CED). The projects included assisting with Public Utility Commission Regulations for the People's Cab Company which is operated by CED; patent work and general legal assistance to Paracomm Corporation, Inc., another CED Company set up to develop a computer-controlled taxi-meter system; copyright, contract and promotional assistance for "The Iron-Clad Agreement", a CED-backed theatrical troupe; and patent assistance on the formation of a small drug company supported by CED. There was also a research project on the petitioning process before the Consumer Product Safety Commission.

Harvard/MIT—The Harvard-MIT Biomedical Engineering Center for Clinical Instrumentation and the Law Center plan to jointly sponsor a fall seminar on "Legal Liabilities under the 1976 FDA Medical Devices Amendment". In addition, Professor Daniel Nyhart from MIT conducted a spring seminar at the Law Center on The Law of the Oceans. As a result, several Law Center students are exploring a semester away program on Ocean Law at MIT and the Woods Hole Institution.

U.S. Army Natick Laboratories—Two projects are underway between the PTC/Law Center and Natick Labs: one involving the preservation of certain meats by means of irradiation, and a second involving the production of food and fuel from enzymic reactions on cellulose.

On the food preservation project, the Law Center is providing information about and assistance with the FDA approval process. Once approval is assured, we will help the Laboratory explore various legal approaches and incentives to promote the process in the private sector.

The cellulose project involves government patents on a glucose and alcohol production system/process. The major problems seem to involve:

- a. lack of private interest in large scale development;
- b. lack of protection for a private firm using a government patent;
- c. the high start-up costs for industrial production; and
- d. the development of functioning interfaces between government and private industry.

Several students are expected to work on the cellulose project during the next academic year.

Law Center Report

This issue of IDEA is the first to be published by the Franklin Pierce Law Center Corporation as an independent educational institution. Previously, we were a graduate law school operating under the charter of the Franklin Pierce College of Rindge, N.H. We are grateful for the confidence displayed in us by the legislature of the State of New Hampshire and by its governor for enacting the necessary legislation so that we could both become independent and grant our own degrees. The "Members of the Corporation" are Thomas Meloy, our close advisor and noted industrialist; Francis Sawyer and William F. Kenney, who also served on the Board of Trustees of the Franklin Pierce College where they gave strong support to our growth and development; Judge Frederick Goode of the New Hampshire Superior Court; President Richard Cyert of Carnegie Mellon University; Dean Harvey Brooks of Harvard University and myself as President of the Law Center. The first two members of our advisory "Board of Overseers" are Dr. Kenneth J. Germeshausen, former Chairman of EG&G, and Mr. Erskine N. White, Jr., Executive Vice President of Textron.

We held our second commencement on May 7th in White Park across from the Law Center's new campus on Washington and White Streets. There were 105 graduates from across the United States. The keynote speaker was Chief Justice Frank R. Kenison of the New Hampshire Supreme Court who has provided moral support to the Law Center from its infancy, welcoming student clerks and interns into his court.

Chief Justice Kenison was awarded the Law Center's first Doctor of Humane Letters degree. Thomas Meloy, member of our Corporation, was also so honored. In addition, Donald R. Simpson, former Dean of Suffolk University Law School and Visiting Professor at the Law Center, was awarded a Citation of Distinguished Service.

This June, I was in Brussels to finalize plans for our joint program with the European Economic Community (see IDEA, Vol. 18, No. 3). This program, presently scheduled for October 6-8 at the Law Center, will provide an opportunity for the presidents of U.S. high technology corporations to have a direct and informal interchange with the new Directorate Generals of the EEC commissions with jurisdiction over antitrust and intellectual property laws.

Corporate participation is being organized by our Industrial Sector Committee chaired by Dr. Meloy and including Dr. Germeshausen, Mr. White Jr., and Mr. Howard Curtis, Secretary of the Law Center.

During my trip to Europe, I visited also the Max Planck Institute in Munich where I was joined by Professor Michael Baram of the Law Center's faculty. There we strengthened our PTC research ties and discussed the progress of our first exchange fellow, Mr. Keith Debrucky, who has been at the Institute since last winter.

Robert H. Rines
President

Publications Received

TRADEMARKS AND BRAND MANAGEMENT: Selected Annotations. Compiled by Conrad R. Hill, 188 pages, paperback.

Professor Conrad R. Hill compiled the first edition of this publication in 1971 as a product of the College of Business Administration of the University of Rhode Island in Kingston. Working in conjunction with the United States Trademark Association, he has recently completed this expanded, fully annotated bibliography of almost 1600 journal and periodical articles.

The items included in the annotations cover the areas of:

1. The philosophy, practice and legal aspects of the selection, use and protection of *Trademarks*;
2. The theory, history and implementation of *Brand Management* as a fundamental marketing technique.
3. The study of *Consumer Behavior* in the market place.

In addition to journal and periodical articles, the annotations of over 130 selected textbooks provide a source for locating broader treatments of the subjects covered in the articles.

Finally, an appendix contains a listing of industry and product category information sources and services which provides direction on where to go for answers to specific industry questions.

The book is published by and available from the United States Trademark Association, 6 East 45th Street, New York, New York 10017. Price is \$12.50, prepaid (\$7.50 for teachers, school or public libraries and government agencies.) Orders requesting billing will be charged \$1.00 for postage and handling.

NEW TRADE NAMES 1976: A guide to Consumer-Oriented Trade Names, Brand Names, Product Names, Coined Names, Model Names, and Design Names, with Addresses of their Manufacturers, Importers, Marketers, or Distributors. Edited by Ellen T. Crowley. xvi + 111 pages, paperback. (Supplement to Trade Names Dictionary, 1st Edition).

New Trade Names 1976, just published by Gale Research Company adds over 13,000 trade name and company entries to the coverage provided by Gale's *Trade Names Dictionary*, 1st Edition, which contains 106,000 entries. Designed to supplement and be used in conjunction with the basic Dictionary, *New Trade Names* (111pp.) includes items uncovered by the editorial staff as it scanned fields new to the *Dictionary*, such as building supplies and art materials, as well as numerous entries that reflect literally "new" product names.

During 1976, the American consumer was introduced to a large number of new shower-head massage units, canned cocktails, and low-tar cigarettes. Other listings contributing to the year's pop-culture mini-history are brand names for such popular products as crepe makers (CREPES 'N THINGS), smoke detectors (CAPTAIN KELLY), fast cookers (PRESTOBURGER), and home video games (PONG).

Like *Trade Names Dictionary*, the supplement contains two types of entries, trade name entries and company entries. Trade name entries provide the trade name itself, a brief description of the product, the name of the company that manufactures, imports, or distributes the item, and a code indicating the directory which provided the information. Included in the same alphabetic sequence are company entries, which provide the company's name and address and a directory code.

In addition to covering new product names, *New Trade Names* contains revised and updated entries that originally appeared in the *Dictionary*. Revised entries usually reflect company address changes and also include product descriptions that were previously unavailable.

A \$45.00 subscription to the *New Trade Names* supplement service includes *New Trade Names 1977*, which will be published in early 1978. *New Trade Names 1977* will cumulate the 1976 entries for a total of more than 20,000 new trade names. *Trade Names Dictionary*, 1st Edition (Gale, 1976), a unique guide to the manufacturers, distributors, and trade, brand, and product names of merchandise sold for personal use, is available for \$65.00.

NATIONAL SCIENCE FOUNDATION RESEARCH MEMORANDA

Over the past several years, the National Science Foundation's Office of National R&D Assessment has released a number of research memoranda on various topics relating to innovation, intellectual property and government R&D policy. The following have been received by the PTC and are available free from the National Science Foundation (or through the PTC at reproduction costs).

- Government Loan Insurance for Innovation*, R.R. Piekarz
Federal Regulatory Practice and Technological Innovation, M.E. Mogee
Government Purchasing and Technological Innovation, D.D. Davenny
Special Revenue Sharing and Innovation, M.L. Windus
Promotion of Efficient Energy Use, P. McWethy
Technological Innovation and Small Firms, B. Burns
Training to Facilitate Diffusion of Technology, E.C. Thomas
Public Technology, J.D. Roessner
Patent Life and the Optimal Timing of Innovations, C. Kitti
U.S. Productivity Growth: An Assessment of Perceptions and Prescription,
R.R. Piekarz and E.C. Thomas
Regulatory Influences on Technological Innovation, M.L. Windus
The Venture Capital Market and Technological Innovation, A.S. Bean,
D.D. Schiffel and M.E. Mogee
Time Lags in the Production of Technological Innovations, M.E. Mogee
*Recoupment of Government R&D Expenditures: Issues and Practices in
the USA*, M.L. Windus and D.D. Schiffel
*Incentives to Innovate in Public and Private Organizations: Implications
for Public Policy*, J.D. Roessner
Predicting Local Responses to Innovations, A.H. Pettifor
*Assessing Effects of International Technology Transfer on the U.S. Econ-
omy: Public Policy Context, Information Needs and Research Pro-
gram*, R.R. Piekarz
*Entrepreneurship Through Experimental Innovation Centers: A Further
Dimension in Engineering Education*, R.M. Colton

Book Reviews

PATENT LAW FUNDAMENTALS by Peter D. Rosenberg
Published by Clark Boardman, Ltd.

Reviewed by Harry M. Saragovitz

This work, in the words of the author "—is designed primarily for those with a general education who seek a fundamental understanding and a working knowledge of the subject."

The work is quite comprehensive, covering all aspects of patent law from the inception of our patent system through patent claims, novelty, utility, non-obviousness, priority of invention, as well as detailed sections on the preparation and prosecution of patent applications. Chapters on the exploitation of patent rights, litigation, and comparative law of foreign patent systems are also included.

The purpose of this book is similar to one written and published by Woodling many years ago for the use of businessmen and general attorneys to simplify and render understandable the U.S. patent system. Those persons with a "general" education, and attorneys in general practice will find portions of the text extremely technical and capable of being understood only by those with a patent background.

This book will be very useful as a text by those law schools providing patent law courses. By judicious selection of portions of the text, the book will be very useful also to those businessmen and general attorneys who desire an overview of the U.S. patent system.

The table of cases is extensive, and the index is complete. A pocket supplement is now in the process of preparation to bring the text up to date.

**KATZAROV'S "MANUAL ON
INDUSTRIAL PROPERTY ALL OVER THE WORLD"**
Eighth Edition 1976. Two Volumes, Printed by
Imprimerie Corbaz S.A., Montreux, Switzerland.

Reviewed by Harry Saragovitz

The 8th edition of this work (first published in 1924 by Prof. Konst. Katzarov) was prepared by Dr. Andre Reverdin. This is a

comprehensive two-volume work which is intended to be re-edited every five years to keep up with the changes made in industrial property law in the various nations covered by this work.

The Manual is divided into two parts. The first part contains international regulations and official texts of international conventions and treaties pertaining to the protection of industrial property. The second part of the Manual is a condensation of the industrial property laws of each of the approximately 185 independent nations as prepared by ninety authors.

The condensation of the industrial property laws of each nation is preceded by general information concerning that country, such as population, currency, imports, exports, products, principal industries, etc. Also included is the address of that nation's Patent Office, as well as lists of societies and patent attorneys or agents. It is not clear whether such lists are complete or merely representative. In the case of the Federal Republic of Germany, no list is given. In some instances official publications and literature are also listed. The condensation of the laws and regulations of each nation includes (where applicable) the requirements for filing, prosecution, granting and post-granting procedures.

Other publications of this scope are in loose leaf form to permit up-dating more readily than is possible with the present work which is intended to be revised every five years.

The Katzanov Manual is a useful adjunct for those attorneys or agents having the responsibility for obtaining protection on industrial property in a plurality of countries. It is also of use in comparing the laws and regulations concerning industrial property of the various nations of the world.

Articles of Interest

Because it is not possible to read all publications in one's own field, IDEA will periodically re-publish articles of interest to our readers which have appeared in publications which our readers might not normally see. The following editorial from SCIENCE is the first in this series. (Ed.)*

Our Last Vaccine?

A writer in the *New York Times* termed the recent swine influenza immunization program a "sorry debacle." What happened, and what are the implications?

The new strain of swine flu isolated at Fort Dix represented a serious potential public health hazard. Virologists and public health officials responded rapidly and with expertise drawn from years of experience and research. Vaccine strains were developed with amazing speed and distributed to manufacturers. The government—perhaps in part politically motivated, but also mindful of the well-known difficulty of mass immunization by private means—made the startling and courageous decision to underwrite the cost of a mass immunization program.

The real problems which are common to all vaccines and to other biologics in the United States today, then began to surface. First, in a mass immunization effort, there are two very real hazards. One or more batches of vaccine may be imperfect and produce unexpected side effects. With current methods of detection and reporting, even infrequent side effects will be apparent. This hazard is minimal in the United States today because of the stringent controls required by the Bureau of Biologics of the Food and Drug Administration. Nevertheless, the possibility always exists. Second, and perhaps more troublesome, is the certainty that deaths and other complications will occur coincidentally with vaccine administration. In the litigious climate that exists in the United States, these events will inevitably result in

* SCIENCE, 25 March 1977, Volume 195, Number 4284.
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lawsuits, each of which may result in a judgment as large as \$1 million to \$10 million.

Who properly should bear the risk of such suits, and the cost of their defense? After lengthy deliberation, the government made the momentous decision, in the case of influenza vaccine, to assume this responsibility. Otherwise, not a single dose of vaccine would have been released.

A major problem inherent in making vaccines, other biologics, and new drugs available in the United States is here put into sharp focus. The problem is liability. Until this problem is understood, faced, and solved, innovation in preventive medicine will slow down to an unacceptable crawl.

A manufacturer who proceeds with dedication, expertise, and courage to make a new vaccine available, investing time, effort, and money to satisfy the most stringent FDA requirements that both the safety and efficacy have been proved beyond reasonable doubt, still must face the realization that if the product is not widely used, he may never be able to recoup even a fraction of the cost of the development, validation, and licensing. In the case of vaccines, where widespread use is likely, he also will have to bear an intolerable risk of litigation for even coincidental adverse events.

As a result, an important segment of the biologics industry in the United States is moribund; effectively only one U.S. vaccine manufacturer remains willing to embark on the development of a new vaccine. Plants and research facilities lie empty, or are sold to foreign firms; research and development efforts are at a standstill. Exciting new vaccines are ready for development—hepatitis B, gonorrhea, syphilis, malaria, to name a few. They may never be available in the United States.

What is the solution? Two possibilities might be considered. One would have the government undertake to bear legal responsibility for all products that it has licensed (and therefore tested and approved) unless negligence in manufacture or administration can be proved. The second would have the government itself or nonprofit government-supported organizations take over the responsibility of manufacture and distribution of biologics. This approach has been widely used in many countries, such as Sweden and France, and in certain states, such as Massachusetts. Perhaps a combination of those approaches would permit America to return to the forefront of preventive and curative medicine.—ALFRED M. PRINCE, *New York Blood Center, 310 East 67 Street, New York 10021*