INTERTECH

INTELLECTUAL PROPERTY STRATEGIES

HARVESTING INVENTIONS & EXPLOITING INTELLECTUAL PROPERTY RIGHTS

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I. INTELLECTUAL PROPERTY MANAGEMENT

A. Importance of IP to a Company

This is a "golden age" for IP. According to Bill Gates, IP is the new "gold rush." IP is the life blood of a company. More than ever companies are built around patented technology. "Innovate or perish" is the motto. Patent filings and issuances are skyrocketing, so much so that there is talk of a patent "revolution," "explosion," "frenzy". The courts are pro-IP as is legislation; even the Antitrust Division of the U.S. Justice Department is pro-IP. Courts read the riot act to infringers. Billion dollar damages have been awarded. Treble damages, once rare, are now the order of the day. Injunctions are not stayed during appeals.

"Everything under the sun made by man" is patentable according to our Supreme Court. As of 1998, formerly unpatentable business methods and computer programs (algorithms) are now also patentable.

Royalties obtained for licensing IP have exceeded the billion dollar mark for companies such as IBM, TI. Hence, IP rights are most valuable corporate assets, crown jewels. In this regard, Donald Fites, Chairman and CEO of Caterpillar, made the following illustrative statement:

> Achieving Caterpillar's goal of providing quality products and services requires more than superior engineering skills. It also requires the protection provided by patents. Without this protection our competitors would soon duplicate our inventions, and the features that differentiate Caterpillar machines worldwide would no longer be unique. Our return on research and development would quickly be eroded, and our mission of producing above-average returns for our stockholders would become increasingly difficult.
>
> Caterpillar's continued growth and prosperity depend not only on our ability to protect our own inventions, but also on our ability to avoid infringing upon the patent rights of others. With courts regularly awarding damages in the millions of dollars, one case of patent infringement could have a significant impact on our ability to compete effectively in the marketplace. As Caterpillar

employees, we all share the responsibility of ensuring that this doesn't happen.

B. Organization of IP Department

There is no ideal IP department structure. Corporate IP Departments, regardless of size, will always differ from one another in certain organization respects, reflecting the unique business structure, tradition and philosophy of the respective corporate entities. However, for the most part there are similarities, based on the nature of the work, the role, the function of the IP department.

First of all, as regards the reporting relationship within the company hierarchy, the IP department, in the vast majority of companies, reports to the General Counsel, parallel to the legal and tax departments or as part of the legal department.

Secondly, there is the question of centralization versus decentralization. Depending on the size and structure of a company and the number and locations of subsidiaries, divisions or other operating units with R&D operations, there may be greater or lesser (de) centralization. Modish trends and the swinging pendulum also play a role. There are pros and cons for both setups. Inasmuch as the amount of service a corporate unit gets from a headquarter department is proportional to the geographic distance, decentralization is preferable. On the other hand, decentralization can lead to isolation of patent attorneys/agents in outlying locations as well as loss of control, communication problems and greater need for resources. Of course, there can be partial decentralization or so-called liaison persons can be employed in outlying R&D units.

Thirdly, anent departmental hierarchy a typical arrangement will comprise a number of patent attorneys/agents reporting to a division counsel or senior attorney, who in turn reports to the chief patent counsel, who invariable is a corporate vice president nowadays in light of the transcending importance of IP to the corporation which puts the IP department center-stage. Thus, an IP department may have sections aligned with operating units, where each attorney/agent handles the entire spectrum of IP work from processing invention disclosures and preparing, filing and prosecuting U.S. and foreign patent applications to getting involved in appeals, interferences, litigation and licensing of cases on his/her docket. In earlier times there was often a functional division of labor, i.e. specialized and separate sections for foreign prosecution, interferences, litigation, licensing. It is more motivational, however, for the members of the IP department to be responsible for all IP matters pertaining to their assigned business unit. The trademark function, however, is usually a separate unit.

IP departments will be guided by operational manuals incorporating corporate IP strategies, policies and procedures and are equipped to perform

necessary training of junior people and give orientation lectures to R&D staffs to create and maintain patent consciousness and keep them abreast of changes in patent law and practice.

As it is not possible for an IP department to be expert in all technical fields and all practice areas, e.g. opinion work and litigation, or cope with fluctuating workloads (headcount limitations), external support may have to be enlisted, i.e. work may have to be farmed out to outside law firms. For quality control purposes, assignments handled by in-house attorneys/agents may be reviewed by outside attorneys. Farming out may also provide salutary exposure of in-house people to private practitioners.

Participation in the activities of IP associations is also important for professional development.

C. Role of IP Department and Its Main Work

1. Role within Corporation — Purpose or Mission
   a) Patent Support for R& D activities
      - Securing exclusive positions for new or improved products and processes via
        - issuance of patents
        - maintenance of trade secrets
      - Avoidance of exposure to infringement charges by others via due diligence
        - right-to-use searches and analyses
        - patent validity searches and studies
   b) Patent support for marketing activities
      - Prosecution of infringement by others of patents and defense against infringement suits via
        - litigation assistance
        - settlement negotiations and agreements
      - Negotiation and drafting of patent and know-how licenses
        - securing win/win deals in taking or granting licenses
   c) Trademark support for marketing activities
      - Procuring and policing distinctive trademark registrations
   d) Copyright support for our publications

2. Major Activities
   a) Evaluation of inventive ideas re
      - novelty and patentability (patent and literature searches, analyses of prior art)
      - patent protection versus trade secret maintenance

b) Preparation and filing of patent applications on domestic inventions

c) Prosecution of patent applications of domestic (and foreign origin) including

- analysis of "Official Actions"
- preparation of "Amendments" (Responses)
- Examiner "Interviews"

d) Appeals and Interferences

- in case of "Final Rejection", appeal to Board of Appeals and then Court of Appeals for Federal Circuit (CAFC)
- in case of conflicting applications, handle interference proceedings to determine first inventor

e) Infringement and Validity Studies (Due Diligence)

- infringement or right-to-use searches
- file history studies
- validity determination of competitor patents

f) Assistance in Patent Licensing and Litigation and Foreign Patent Filing and Prosecution

g) Other Activities:

- outside disclosures
- secrecy agreements
- clearance of technical publications
- patent orientation programs

h) Filing and prosecution of trademark applications, including

- availability searches
- oppositions

i) Copyrights

- registration of copyrighted materials

3. Major Objectives

a) Prioritize and streamline patent and trademark procurement practice by e.g., (1) filing fewer patent applications, especially on marginal inventions and inventions which can be maintained as trade secrets, (2) abandoning more pending cases where interest is sagging and/or the going gets tough, (3) streamlining internal procedures to simplify and improve operations, etc.

b) Prepare, finalize or update, as the case may be, various corporate and departmental policies, procedures, forms and manuals such as Corporate Patent Policy, Trade Secret Policy, Invention Agreement, Operations Manual, Due Diligence Procedure.

c) Formalize and improve the due diligence process, especially as regards assessments of patent infringement and patent validity as well as patent litigation risks and litigation costs.

d) Build in-house patent litigation, patent interference and patent licensing capability and expertise so as to reduce dependence on outside patent counsel.

e) Determine optimal, computer and word-processing systems for the Department and replace present (outdated) systems. See Attachment I for another illustrative corporate IP Management Program.

D. Harvesting Inventions — Discovering Discoveries

- Have a simple, Invention Disclosure system (policy, procedure and forms) (Attachment II)
- Establish rapport with inventors — "hand-holding"
- Practice MBW — Management by Wandering Around
- Make periodic trips to other R&D sites
- Make presentations on IP to R&D personnel to create IP awareness
- Distribute IP bulletins to R&D personnel on IP developments
- Read R&D technical reports regularly
- Attend R&D meetings
- Have written procedures for cooperation between R&D and IP Departments
- Have patent liaison people at R&D sites
- Have fair standard employment/ invention agreements with all R&D personnel (Attachment III)
- Review the Invention Disclosures in Patent Committee Meetings (Attachment IV)
- Institute an inventor award or incentive system

E. Inventorship

Unfortunately, there are no exact rules by which the matter of inventorship can be determined where a cooperative effort has produced an invention. While exact rules are absent, there are both negative and positive guideposts which can be used to indicate conditions under which sole or joint inventions have taken place.

Joint Inventorship

Difficulty arises in the case where there appears to have been a joint invention. In such case it is necessary to appraise the contributions of several parties to ascertain whether one or several supplied that quantum necessary to constitute invention. First, it is not necessary that the contributions of joint inventors be equal either quantitatively or qualitatively. In fact, it is possible that one inventor may have made a relatively minor contribution and still be considered a joint inventor. Here again, it is necessary to advert to the standard of the "exercise of inventive faculties." While recognizing that invention is something more than the exercise of ordinary skill in a particular art, one mav

exercise his inventive faculty to a greater degree than another in creating what may be properly considered a joint invention.

No matter what the invention involves, each of the parties under consideration as possible inventors must have contributed to the combination elements thought to be the invention. In evaluating the contributions, those suggesting the desired results or those merely identifying the problem cannot be considered as inventors since they clearly have not contributed to the solution. Also the amount of contribution or the qualify and quantity of assistance offered by each member under consideration, is immaterial. It merely must be established that the parties worked in concert and that their respective donations contributed to the unitary result.

In order to constitute two or more persons joint inventors, it is not necessary that the inventive concept must have come to all of them at the same time. It is sufficient that the invention be the result of mutual counsel, mutual suggestions and mutual effort. Some of the elements or features of the invention may have been contributed by one and the other features by the others, but the features contributed by each other must be interrelated and contribute to a unitary result. In other words, the contributions of the co-inventors must result in a patentable combination.

Where there are separate contributions it is enough that they result in a patentable combination.

If a claim covers but a single idea, it would be difficult to conceive how it could be patented by two, but, when a claim covers a series of steps or a number of elements in a combination, the invention may well be joint, although some of the steps or some of the elements may have come as the thought of but one.

Joint inventors need not contribute in the same way to a common invention. One party might conceive the solution to a problem and another the means for implementing the solution. It is still, however, a joint invention. The fact that one party had no part in the actual reduction to practice has been held not to negate joint invention.

Contribution of one joint inventor does not have to be as great as that of another; invention is joint if each makes some original contribution, though partial, to the invention.

There is no requirement that inventors must personally carry out experimental work in connection with invention conceived by them in order to be regarded as inventors.

Conception

An understanding of what conception means I the key to understanding joint invention. Conception can be defined as follows:

The conception of the invention consists in the complete performance of the mental part of the inventive act. All that remains to be accomplished in order to affect the act or instrument belongs to the department of construction not invention. It is, therefore, the formation in the ind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice that constitutes an available conception within the meaning of the patent law.

Determination of Joint Inventorship

It is safe to say that the classic way of determining a joint invention is to require that the conception be joint. One must inquire whether the possible joint inventors worked together and how the idea arose.

It must be borne in mind that there's really no such thing as joint reduction to practice. Joint inventorship stems from a joint conception. Anybody can reduce it to practice.

Joint conception, once made, can be turned over to a lab assistant. He can reduce it to practice for the inventors.

The guts of joint invention is joint conception. If men work together, and are so mixed up as to who contributed what that none of them will claim all the credit, joint inventorship is indicated.

An analysis of all available facts must be made. The analysis should answer the following questions:

Do informative material materials and ideas given by one person to another contain the inventive features?

Do the facts show that two or more persons worked in concert to conceive the inventive features?

Do the facts show that the inventive features were actually conceived by a person receiving informative materials from another so that the person furnishing the informative materials is established as having no part in the conception of the inventive features?

Do any or all of the changes made by others persons exceed what would be expected of the ordinarily skilled person familiar with the subject matter?

Were any of the inventive ideas contained in disclosures made by others?

Did samples made by one person follow the instructions of another and add nothing of an inventive nature thereto?

Mere fact of disagreement between parties as to who suggested or performed or discovered one detail of invention does not defeat claim to joint inventorship; while not always determinative of question of joint inventorship, parties relationship to one another ought to be taken into consideration concerning issue of independent invention; fact that one party was graduate student working under direction of other party militates against possible double, but independent, invention.

Sole Conception — Joint Invention

If the party conceiving at least the gist of an invention is subsequently joined by another party who assists in completing the invention and through their joint efforts, each making mutual contributions to the final inventive results, an operative invention is produced, they can become joint inventors.

An analogous situation arises when one party has conceived an idea and has actually made a design incorporating the concept, but it proved to be impractical and therefore unsatisfactory. If the one who conceived the idea thereafter consulted another and if a patentable improvement over the earlier conception was developed from their discussions of the problem, there has been the requirement of communication and mutuality so that joint invention does exist.

On the other hand, if there is no discussion or cooperation between the parties in the two foregoing examples and the invention is made operative, independently by the conceiving party, the one making the invention operative becomes the sole inventor. As an example, it may be that an inoperative process is disclosed and studied by one other than the conceiver and that independently of the conceiver the model is made to work. Since there was no communication between the parties, and it was only the party who made the model operate properly who completed the invention, he becomes the sole inventor.

Joint Conception — Joint Invention

Often it may be discovered that it is virtually impossible to ascertain as between two or more parties who actually suggested one of the elements because the suggestion was developed in joint discussion. These scrambled contributions sometimes cannot be separated, and hence, such situations are sometimes

regarded as joint inventions since the cooperative efforts of the parties still contributed to a unitary result.

Joint Conception — Sole Invention

However, if the joint efforts of the group produced a conception that was insufficient to enable another to perform the mere mechanical function of embodying the conception into an operative structure, there is still an incomplete invention. If subsequently one of the group works on the problem and completes the invention independently of the others, the one working alone may be considered the sole inventor.

Superior — Subordinate Relationship

Supervisor can get help from skilled subordinate in reducing his conception to practice and still be considered the inventor; where idea of invention is disclosed to employee by employer (or to subordinate by supervisor), there is presumption that final product arising from collaboration is invention of employer; presumption applies not only to issue as to employer's good faith in deciding that supervisor was inventor but also to factual issue of who in reality was the inventor.

Resolution of Doubt

The present Statute is relatively broad also in its requirements for identification of inventor when more than one person is involved. If there is a sound basis for question about the addition of a name to an application, the doubt should be resolved in favor of adding the name.

Burden of showing mis-joinder or non-joinder of inventors is a heavy one and must be proved by clear and convincing evidence; joint invention connotes collaboration of effort to produce a complete and operative invention; one who merely suggest an idea of a result to be accomplished, rather than means of accomplishing it, is not a joint inventor.

Ordinarily, testimony of inventors as to joint inventorship need not be corroborated by third parties.

That correct inventorship is critical is illustrated by *Ethicon v. U.S. Surgial*, 45 USPQ 2d 1545 (Fed. Cir. 1998).

Ethicon had obtained the exclusive license from the sole inventor, Dr. Yoon, who was the only named inventor in U.S. Patent No. 4,535,773. This patent related to "trocars," which are surgical instruments. In 1989 Ethicon and Dr. Yoon sued U.S. Surgical for infringing the '773 patent. However, through discovery U.S. Surgical uncovered that a second individual Mr. Choi.

collaborated for approximately 18 months with Dr. Yoon on developing trocars. Choi, however, received no compensation for his time and effort. Choi was never informed that Dr. Yoon filed a patent application for the trocar and named himself as the sole inventor, or that such an application later issued as a patent. U.S. Surgical contacted Choi, and after believing he was a co-inventor and co-owner of the '773 Patent, obtained a retroactive license from Choi dating back to the issuance date of the patent. The license also required Choi to assist U.S. Surgical in any suit regarding the '773 patent. With license in hand, U.S. Surgical immediately filed a motion to correct inventorship of the '773 Patent under 35 U.S.C. 256. The district court held that Choi was indeed an omitted co-inventor of two claims in the '773 Patent and granted U.S. Surgical's motion to dismiss the patent infringement action by Ethicon, as Choi refused to consent to such an action against U.S. Surgical. The Federal Circuit affirmed the district court's dismissal of Ethicon's suit because of Choi's refusal to join the U.S. Surgical suit, as in any infringement action, all co-owners must be joined as plaintiffs.

F. Ownership of Inventions

1. R& D Funded by a Corporation

General Rule: employee owns invention as ownership follows inventorship.

But if the employee

- has a fiduciary position,
- was hired to invent,
- was specially assigned to work on project or
- signed an invention or employment agreement,

then the employer owns the invention; hence, the employee must assign the patent rights, if any, to the employer, who will record them in the U.S. Patent & Trademark office.

Note that. even if none of the above conditions applies and the employee owns the inventions without obligation to assign his/her rights to the employer, the employer may have shoprights (implied non-exclusive non-transferable license), if employee used company time, resources, know-how.

Also to be kept in mind is the fact that eight states have so-called "Freedom-to-Create" statutes. They are California, Delaware, Illinois, Kansas, Minnesota, North Carolina, Utah, and Washington. In each of these states assignment provisions applicable to inventions which fall outside the field of company business and which are developed by the employee outside the scope of work and without use of company time or resources, are now considered against public policy. An employment agreement containing an overly broad assignment provision applicable to "all" inventions conceived or made by the employee will, to this extent, be void and unenforceable under any of the five statutes.

2. R&D Funded by the Government

If R&D is carried out by the government in federal laboratories, the government likewise has the rights to any inventions made (U.S. v. Dubilier, US Supreme Court, 1930). But the government licenses the federally owned IP very freely, even on an exclusive basis, under the Stevenson-Wydler Technology Innovation Act of 1980 and the Federal Technology Act of 1986, which were enacted to facilitate technology transfer from federal laboratories. Under the latter act, each federal agency has the authority to permit any of its government-owned, government-operated federal laboratories and its Government-owned, contractor-operated laboratories to (1) enter into cooperative research and development agreements (CRDAs) with third parties and (2) negotiate licensing agreements.

If R&D is carried out in universities, research institutes and (small) business corporations and funded by the government, in whole or in part, these entities can elect to retain title under the Bayh-Dole Act of 1980. However, they are subject to the government's so-called "march-in rights."

March-in rights may be exercised if (1) the agency determines that commercialization of the invention is not being effectively pursued; (2) the license is necessary to satisfy health or safety needs; (3) the patent holder has not met the public use requirements specified by federal regulations; or (4) the patent holder has failed to agree that products incorporating the patented invention will be manufactured substantially within the United States.

G. Searches — Value and Types of Prior Art Searches

For R&D personnel literature searches are an essential and familiar part of the daily routine. Such searches of the technical and scientific literature include of course patent literature insofar as patents are included in abstracts and indices to scientific literature. The subject of literature and patent searches is important since 10% of the money spent on R&D is supposedly wasted because of inadequate searches.

In general, there are at least five important occasions when some kind of a literature or patent search or investigation is appropriate. They are:

1) Before filing a patent application
2) Before entering a new field of research
3) Before commencing manufacture of a new product or use of a new process or improved products or processes

4) Before taking a license under someone else's patent and
5) Before patent litigation.

In the first two situations the search can be made either by the chemist or the patent attorney or by both; in the last three situations such search must be made by a patent attorney.

Novelty Search

A search made before filing a patent application to determine whether the subject of the proposed patent application is patentable is called a "preliminary" or a "novelty" search. It is usually limited to a reasonably cursory examination of the classes of patent and scientific literature which are most likely to be pertinent. Such a search is also very helpful in writing the patent application as it is possible to stay clear of prior art and as it shows how the subject matter was previously presented to obtain allowance in the Patent Office.

A novelty search is best made by the chemist rather than a patent attorney, as it is less expensive and may be more useful for the following reasons:

1) It may be rather difficult to define the scope of the investigation to an attorney not familiar with the specific needs.
2) Much useful information is always gathered from the literature which is often not of immediate help and which would be disregarded by the attorney and
3) In chemical and pharmaceutical fields important publications are found in scientific literature other than patent literature.

However, if the invention pertains to manufactures or machines or is concerned more with know-how than with basic inventions, that it might be advisable to have a patent search done in the Patent Office search room. Searching in the Patent Office has become a science in itself and in important cases a search is best done by a "professional" patent searcher. How to make a search in the Patent Office is a big topic in itself and cannot be discussed in detail here.

Incidentally, there is an alternative to novelty searches. One can file a patent application without novelty search and let the Patent Examiner handling the application make the search. This may be risky, however, if prior art is encountered which could be avoided.

There are other instances where such a novelty search may not be called for, as for instance, where the inventor or the attorney is intimately familiar with substantially all that has been done in the field to which the

invention pertains or where this field is developing so rapidly or is so new that recent developments would not yet be found in patents or printed publications.

State-of-the-Art Search

Inasmuch as millions of issued patents and publications constitute a great store of technical information, it is advisable to use them as the source of background material as well as guidelines for open avenues of research upon entry into a new field of technical research. To obtain such background material a "collection" or "state-of-the art" search is made. Again, unless the scientist or the attorney is intimately familiar with this subject or this is a brand new area of research, this search can be made by the chemist or by the attorney, but preferable by the chemist, as indicated above. If the new area of research is neatly classified in the Patent Office, it is possible to order all the patents in the given sub-classes rather than have a search made. Frequently a novelty search and a state-of-the art search can conveniently be combined, possibly also with an infringement search.

Infringement Search

Before entering upon the manufacture of a new product or starting up a new process or making substantial changes in product or processes it is a good practice to make or have made an "infringement" or "right-to-use" search. Such a search is concerned of course only with the unexpired U.S. patents. Such a search is very important and its necessity should be kept in mind by all R&D personnel as it would be very embarrassing if after a new product has been on the market or a new process has become commercial, a charge of infringement would be encountered.

The field of an infringement search may be smaller than that of a "novelty" and particularly a "state-of-the art" search, but it is more expensive and more exhaustive, because the patent claims must be analyzed in the light of many factors to see whether infringement exists. This search is one that must be made by the attorney, who is familiar with infringement law and practice.

Validity Search

Before taking a license under someone else's patent or before patent litigation a validity search must be made in order to ascertain whether the patent involved is valid. Such a validity search is a comprehensive investigation of all possible factors which might render the patent invalid. There are about 28 rasons?? For patent invalidity and such

a search is therefore much broader than a search of the literature and patents, indeed it may be a job for a detective.

In conclusion, the best patent and literature search possible can be obtained from the International Patent Institute at The Hague, Holland. It is expensive but very thorough and reliable. In a very important litigation in the electronics industry a search at The Hague Institute turned up a Russian literature reference which has helped or will help to invalidate an important patent.

H. Integration of IPR's

As will be below, patents and trade secrets are complementary, if not inseparable, and can and should be relied on side by side for optimal protection. In other words, it is possible to eat the cake and have it. The erstwhile view, prevalent even in the U.S. and still widespread in foreign countries, that only single protection is possible, e.g. utility and design patents on the same product are incompatible, has long gone overboard. Dual or multiple protection, integrating various IP categories and exploiting their overlap, especially in modern fields of technology, e.g. biotechnology, computer technology and other high technology areas, is now increasingly the order of the day.

Professor Jay Dratler, of the University of Hawaii "tied all the (formerly fragmented) fields of intellectual property together", for the first time in his treatise on "Intellectual Property Law: Commercial, Creative, and Industrial Property", *Law Journal Press*, 1991, inasmuch as intellectual property has become a "seamless web" in light of progress in technology and commerce, with new technologies straddling the gaps between most IP categories.

Professor Dratler explains:

> "The (IP) fields overlap significantly, and the boundaries of each are far from sharply defined. Indeed, several different types of protection are often available for the same thing, or for different aspects of the same thing; therefore, resort to several kinds of protection may be required for complete coverage.
>
> .....
>
> Although several distinct types of intellectual property protection may protect a single product or service, there is usually a center of gravity. That is, one form of protection is usually the most important commercially, and the others assume a subordinate or supplementary role. This does not mean,

however, that supplementary protection lacks value. Supplementary protection may cover additional subject matter, strengthen the exclusivity provided by other coverage, or invoke additional remedies for piracy." (Jay Dratler, Jr., "Intellectual Property Law: Commercial, Creative and Industrial Property," Law Journal Seminars Press, v. 1, pp.1-14, 1-20 to 21, 1999.

Professor Dratler goes further and shows how integration of IP categories may even achieve synergy and provide fall-back forms of IP. In this regard witness the very recent *Pizza Hut* CAFC decision, in which two patents on preparing sausage toppings for pizza were held invalid for the reason that prior use and sale had taken place more than a year before filing, while valid trade secrets on associated, ancillary know-how permitted Pizza Hut to recover damages for misappropriation of the trade secrets.

Dratler gives detailed illustrations of the many forms of IP protection that are available in the fields of computers (hardware and software), biotechnology and aesthetic designs of articles. And multiple protection for plants is also clearly available, not only via plant patents and plant variety protection certificates but also via utility patents, trade secrets and even design patents.

More recently, Stephen Elias, picking up on Professor Dratler's theme, presented a "Guide to Use of Intellectual Property Protections", in chart form, in which he lists 119 creative work categories and the multiple IP protection available therefore. (Stephen Elias, *Patent, Copyright & Trademarks — A Desk Reference to Intellectual Property Law*, Nolo Press, pp. 10-12, 1996)

II. TRADE SECRETS AND THE PATENT/TRADE SECRET INTERFACE

A. Introduction

The importance of the trade secret in technological advancement and economic development is substantial, but has not been sufficiently appreciated. (See Attachment V) Today trade secrets are gaining greater reverence as a tool for protection of innovation. As was stated by Mark Halligan in his talk on trade secrets in John Marshall Law School's 44th Annual Conference on Developments in IP Law on February 25, 2000, "Trade secrets are the IP of the new millennium and can no longer be treated as a stepchild."

Halligan also pointed out that trade secrets are no longer merely a matter of employer/employee disputes, the definition of trade secrets and trade secret misappropriation is a broad one and no secrecy agreement is needed. It was only

Minnesota and New York anyway where a contract had to be in the picture and that has changed in those states, too.

And James Pooley proclaimed recently "Forget patents, trademarks and copyrights...trade secrets could be your company's most important and valuable assets." ("The value of trade secrets", Managing Intellectual Property, October 1999.) Indeed, in many companies trade secrets are their "crown jewels".

And the stakes are getting higher. Damage awards from trade secret misappropriation have been in the hundreds of millions and in a recent trial in Orlando, in which two businessmen were seeking $1.4 billion in damages from Walt Disney Co., accusing the company of stealing trade secrets for the sports complex at Walt Disney World, the jury awarded them $240 million.

Trade secrets are the orphan in the IP family or the black sheep in the IP barnyard, with no government bureaucrats involved in their creation and few lawyer groups focused on them. They have been maligned as flying in the face of the patent system, the essence of which is disclosure of inventions to the public. Keeping inventions secret is, therefore, supposed to be reprehensible. One noted IP professor went even so far as to say "Trade secrets are the cesspool of the patent system."

> Nothing could be further from the truth. Patents are but the tips of icebergs in an ocean of trade secrets. Over 90% of all new technology is the stuff of trade secrets and over 80% of all license and technology transfer agreements involve proprietary know-how, i.e. trade secrets, or constitute hybrid agreements relating to trade secrets and patents. (Karl Jorda, Les Nouvelles, June 1986.) As a practical matter, patent licenses, which do not also include associated know-how, are often not enough for licensees to use the patented technology commercially. (Homer Blair, "Understanding Patents...and Their Role in Technology Transfer and Licensing", FPLC Publication, 2nd ed., 1989.) Bob Sherwood calls trade secrets the "workhorse of technology transfer." (Intellectual Property & Economic Development, Westview Press, 1990.) The role they play in innovation is largely unobserved.

Trade secrets are the first-line defense: they come before patents, go with patents and follow patents.

It is interesting, as Henry Perritt states, that "patent law was developed as a way of protecting trade secrets without requiring them to be kept secret and thereby discouraging wider use of useful information." (Trade Secrets — A Practitioners' Guide, PLI, 1994.) That makes patents a supplement to trade secrets rather than the other way around, as is commonly assumed.

B. Trade Secret Protection Basics

1. History of Trade Secrets

- "Trade Secret law is the oldest form of intellectual property protection, " according to Perritt. (Cave people?!)
- Back in Roman times, the law afforded relief against a person who induced another's employee (slave) to divulge secrets relating to the master's commercial affairs.
- Trade secrecy was practiced extensively in the European guilds in the Middle Ages and beyond.
- Modern law evolved in England in early 19th century — in response to the growing accumulation of technology and know-how and the increased mobility of employees.
- Recognized in U.S. by middle of 19th century, *Peabody v. Norfolk* (1868) held that a secret manufacturing process is property, protectable against misappropriation; secrecy obligation for an employee outlasts term of employment; a trade secret can be disclosed confidentially to others who need to practice it and a recipient can be enjoined from using a misappropriated trade secret.
- By the end of the 19th century the principal features of contemporary law were well established and in 1939 the Restatement of Torts attempted to "codify" it.

2. Definitions of a Trade Secret

a. Restatement of Torts

A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. It may be a formula for a chemical compound, a process of manufacturing, treating or preserving materials, a pattern for a machine or other device, or a list of customers. (Restatement of Torts, § 757, Comment b (1939))

b. Uniform Trade Secrets Act (UTSA)

A trade secret is any information, including a formula, pattern, compilation, device, method, technique, or process, that:

(i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and

(ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy. (Uniform Trade Secrets Act § 1(4), 14 U.L.A. 372, 1985 & Supp. 1989) (Adopted in over 40 states.)

c. Restatement of Unfair Competition

A trade secret is any information that can be used in the operation of a business or other enterprise and that is sufficiently valuable and secret to afford an actual or potential economic advantage over others. (Restatement (third) of Unfair Competition, § 39, 1995)

d. GATT-TRIPS

Natural and legal persons shall have the possibility of preventing information lawfully within their control from being disclosed to, acquired by, or used by others without their consent in a manner contrary to honest commercial practices so long as such information:

(a) is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in questions;

(b) has commercial value because it is secret; and

(c) has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret. (TRIPS Agreement, Part II, Sect. 7: Protection of Undisclosed Information, Art. 39, Par. 2, 1994)

e. Definition of Know-how (Knowledge and Skill)

Know-how is knowledge and experience of a technical, commercial, administrative, financial or other nature, which is practically applicable in the operation of an enterprise or the practice of a profession. (AIPPI Resolution — Mexico Congress — 1973.)

It can be noted from these definitions that know-how and trade secrets are not synonymous. Trade secrets can cover both patentable inventions as well as unpatentable know-how and know-how is not protected unless it is securely maintained in secrecy.

3. Scope and Characteristics of Trade Secrets

- No registration requirement.
- No subject matter or term limitation.
- No tangibility requirement.
- No strict novelty requirement.
- Subject matter must not be generally known or available.
- But secrecy is the most important criterion — a *sine qua non*. There are no exceptions.

- Affirmative measures must be taken to safeguard a trade secret.
- Sufficient economic value or competitive advantage is also a requisite.
- Proper criterion is not "actual use" but "of value to company", i.e. negative results can also give a competitive advantage.

The Restatement of Torts adopted and the courts relied on the following criteria for determining whether a trade secret exists:

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

4. Management of Trade Secrets

In line with the requirement that affirmative measures must be in place to safeguard trade secrets, checklists have been developed. An illustrative checklist goes as follows:

- Memorialize the trade secret policy in writing.
- Inform employees of trade secrets.
- Have employees sign employment agreements with confidentiality obligations.
- Restrict public accessibility to sensitive areas.
- Restrict access to trade secrets (on need-to-know basis).
- Lock gates and cabinets.
- Label trade secret documents as such.
- Screen speeches and publications by employees in advance.
- Conduct exit interviews with departing employees.
- Use contracts with confidentiality obligations in dealing with third parties.

The necessary affirmative measures do not require a fortress with walls and moats; efforts that are reasonable under the circumstances will do.

5. Misappropriation of Trade Secrets

As stated in the Introduction, the definition of trade secret misappropriation is a broad one.

In UTSA "misappropriation" means:

(i) acquisition of a trade secret of another by a person who knows or has reason to know that the trade secret was acquired by improper means; or

(ii) disclosure or use of a trade secret of another without express or implied consent by a person who

(A) used improper means to acquire knowledge of the trade secret; or

(B) at the time of disclosure or use, knew or had reason to know that his knowledge of the trade secret was

(I) derived from or through a person who had utilized improper means to acquire it;

(II) acquired under circumstances giving rise to a duty to maintain its secrecy or limit its use; or

(III) derived from or through a person who owed a duty to the person seeking relief to maintain its secrecy or limit its use; or

(C) before a material change of his [or her] position, knew or had reason to know that it was a trade secret and that knowledge of it had been acquired by accident or mistake.

Unif. Trade Secrets Act § 1 (2), 14 U.L.A. 372 (1985) (Supp. 1989).

In a nutshell, misappropriation is:

- Acquisition by improper means.
- Acquisition by accident or mistake.
- Use or disclosure of a trade secret, which is acquired improperly or in violation of a duty to maintain confidentiality.

"Improper means" includes "theft, bribery, misrepresentation, breach or inducement of a breach of a duty to maintain secrecy, or espionage through electronic or other means."

Independent discovery, reverse engineering, or discovery from observing what has been allowed to enter the public domain, do not support a claim for misappropriation.

6. Trade Secret Litigation

As trade secret law is state law, litigation is in state courts, except in diversity cases (parties are residents of different states; over $50,000 is at stake) and cases also involving a federal issue, e.g. patent infringement.

After questions of jurisdiction and venue are dealt with, this is what happens in a typical trade secret misappropriation case:

- Pleadings (Complaint, Answer, Counterclaims) are filed and served on other party.
- Discovery (via interrogatories, requests for documents and admissions, depositions of witnesses) takes place.
- Pretrial motions are filed, such as, in particular, a motion for summary judgment.
- A trial is held before a judge or jury, where the plaintiff has the burden of proof and must establish the basic elements of a trade secret and its misappropriation. In defense, defendant attempts to deny the charges and/or use affirmative defenses, e.g. unclean hands.
- To protect the trade secrets from disclosure, the court will issue protective orders and hold trial sessions in camera (in the judge's chamber).
- Appeals can follow the trial; the dispute can be settled or arbitrated or mediated.

Remedies for misappropriation include one or more of the following:

- Injunctions — specially important in trade secret cases.
- Interlocutory injunctions (temporary restraining orders and preliminary injunctions) and permanent injunctions. As to the length of time that an injunction should last, many courts will issue a "reverse engineering injunction" which lasts for the estimated time it would take a hypothetical competitor to take a public disclosure and work backward to discover the trade secret.
- Damages — compensatory damages, defendant's profits, royalties, punitive damages, attorney's fees.
- Searches and Seizures — where they are the only way to obtain evidence of misappropriation.

Although trade secret misappropriation cases are, as a general rule, civil cases brought in state courts; several states make trade secret misappropriation a crime via explicit criminalization (e.g. Pennsylvania) or via larceny and theft of "property" (e.g. Massachusetts, Minnesota, New Jersey, Ohio, Texas).

7. Economic Espionage Act

More importantly, as of 1996 we have the Economic Espionage Act (EEA).

The EEA is the first federal criminal statute to impose serious penalties for the misappropriation of trade secrets. The EEA does not preempt existing state or federal trade secret law; however, as a criminal statute, the EEA does not afford a private right of action. Under current Justice Department policy, only the Attorney General, the Deputy Attorney General or the Assistant Attorney General for the Criminal Division can authorize prosecution under the EEA.

The EEA generally prohibits the intentional misappropriation of trade secrets to benefit anyone other than the owner.

The penalty under the EEA is half a million dollars and/or 15 years imprisonment for individuals and for organizations it is $5 million but if the trade secret misappropriation benefited foreign entities, it is $10 million.

C. The Trade Secret/Patent Interface — Compatibility

Patents and trade secrets are not mutually exclusive but actually highly complementary and mutually reinforcing; in fact, they dovetail. In this context, it should be kept in mind that our Supreme Court has recognized trade secrets as perfectly viable alternatives to patents (*Kewanee Oil v. Bicron* (1974) "the extension of trade secret protection to clearly patentable inventions does not conflict with the patent policy of disclosure") and further strengthened the bases for trade secret reliance in subsequent decisions (*Aronson v. Quick Point Pencil* (1979) and *Bonito Boats v. Thunder Craft Boats* (1989)). Interestingly, in his concurring opinion in the *Kewanee Oil* decision, Justice Marshall was "persuaded" that "Congress, in enacting the patent laws, intended merely to offer inventors a limited monopoly (sic) in exchange for disclosure of their inventions (rather than) to exert pressure on inventors to enter into this exchange by withdrawing any alternative possibility of legal protection for their inventions.". Thus, it is clear that patents and trade secrets cannot only coexist, but are in harmony rather than in conflict with each other.

In the past — and even today — if trade secret maintenance was contemplated at all, e.g. for manufacturing process technology, which can be secreted unlike gadgets or machinery, which upon sale can be reverse-engineered, the question always was phrased in the alternative. E.g. titles of articles discussing the matter read "Trade Secret vs. Patent Protection", "To patent or not to patent?" "Trade Secret or Patent?" etc.

I submit that it is not necessary, and in fact shortsighted, to choose one over the other. To me the question is not so much whether to patent or to padlock an invention but rather what to patent and what to keep a trade secret and whether it is best to patent as well as to padlock, i.e. integrate patents and trade secrets for optimal protection of innovation.

In his 1991 treatise on "Intellectual Property Law: Commercial, Creative and Industrial Property", Professor Jay Dratler of the University of Hawaii discussed in great detail the emergence of intellectual property as a single field of law ("knit(ting) this patchwork of separate legal (IP) regimes into a single, coherent fabric") and focused on the overlap between the separate fields of IP and on exploiting this overlap to achieve multiple and synergistic IP protection. But Bob Sherwood (*supra*) had already observed in 1990 "the interplay of several forms of intellectual property protection" with respect to the new technologies of computer software and biotechnology.

Subsequently, other writers picked up this theme and there can be no doubt now that exploiting the overlap to develop fall-back positions via multiple protection is the best strategy.

It is true that patents and trade secrets are at polar extremes on the issue of disclosure. Information that is disclosed in a patent is no longer a trade secret. Yet, the highest degree of overlap, and the best opportunities for exploiting this overlap, exists with trade secrets and patents. This is due to the fact that patents and trade secrets are indeed complementary, especially for and under the following reasons and circumstances:

Firstly, in the critical R&D stage and before any applications are filed and also before patents issue, trade secret law particularly "dovetails" with patent law (see *Bonito Boats*).

Secondly, provided that an invention has been enabled and the best mode described in the patent application, as is requisite, all associated or collateral know-how not disclosed can and should be treated and retained as a trade secret. That the "written description" and "best mode" requirements apply only to the claimed invention and only at the time of filing, should be kept in mind in this context.

Thirdly, all the mountains of R&D data, including data pertaining to better modes, usually developed after filing, whether or not inventive, can and should also be maintained as trade secrets, to the extent the data are not disclosed in subsequent applications.

Fourthly and especially with respect to complex technologies consisting of many patentable inventions and volumes of associated know-how, complementary patenting and secreting is tantamount to having the best of both

worlds. In this regard GE's industrial diamond process technology, which is partially patented and partially under trade secret protection, comes to mind as an excellent illustration of the synergistic integration of patents and trade secrets to secure robust protection.

Was GE's policy to rely on trade secrets in this manner, or, for that matter, Coca-Cola's decision to keep their formula secret rather than patent it, which could have been done, damnable? I think not.

D. The Trade Secret/Patent Interface — Respective Rights Issue

The discussion that patents and trade secrets, far from being mutually exclusive, actually dovetail, as trade secrets are perfectly equal and viable alternatives to patents, obviously left unanswered the question of the respective rights of a first inventor who elects to hold and use patentable subject matter as a trade secret (trade secret owner) and the second independent inventor who seeks and obtains a patent thereon (patentee). This is the highly controversial issue of whether the first inventor has the so-called "prior user right" to continue to practice the invention in question in the face of the second inventor's patent thereon. In hearings in the U.S. Patent & Trademark Office two years ago about IP bills pending in Congress, the threat was made by a noted patent attorney that, inasmuch as prior user rights would be "unconstitutional, because they undermine the notion of 'exclusive rights' inherent in the patent grant," he is "prepared to sue to test it". In my view, he won't get a chance to follow up on his threat and, even if he did, wouldn't get to first base. Such a proposition is simply not tenable. This goes also for the common, baldly-stated misconception that the trade secret owner infringes the second-inventor's patent and hence can be enjoined.

First of all, the modifier "exclusive" doesn't mean "exclusive, exclusive". No right is ever totally exclusive and anent patents, there are several areas where something akin or tantamount to a prior user right already exists. Angelo Notaro lists a veritable litany of statutorily- or decisionally-created "co-uses", "forced sharing of inventions", "estoppels", "implied licenses", "intervening rights", "judicial recognition of prior user rights", etc. as, for example, shoprights, temporary uses of inventions on vessels or aircrafts, intervening rights in reissue and reexamination cases, co-uses in supplier/customer, manufacturer/distributor, contractor/contractee relationships, public interest situations where injunctive relief is denied, certain uses by government or uses under the Clean Air and Atomic Energy acts, compulsory licenses as a remedy for antitrust violations, etc. (Notaro, *Patents and Secret Prior User Rights...*, 81 *patent and trademark review*, 1983.) We also have an experimental use exception and the patent right is a negative right and a patentee may be blocked by a dominant patent.

And as regards the respective rights, I contend that the trade secret owner has a *de facto* prior user right to continue the practice of his trade secret. I do so on the basis of 1) much thoughtful literature, going back to at least 1944 (all

referenced in my 1979 *JPOS* article), which postulates such a right, and 2) the fact that it has never happened that a trade secret owner was enjoined by a "Johnny-come-lately" patentee.

Such a right, which is very prevalent outside the U.S. and has existed in some countries for over 100 years, has also been posited in the literature as a kind of "*in personam* right", "shopright," "intervening right," "right of co-use," "right of personal possession" and "personal easement on the invention."

> In his classic treatise on Trade Secrets (Sec. 180), Ellis concluded: "To give a patent to a subsequent inventor without barring him from suing the first inventor and secret user of the invention, would be to offer, as a reward to anyone who could discover the invention by independent research, the economic scalp of the first inventor and secret user."

A similar sentiment resides in the cogent maxim: "A Constitutional award to one inventor does not mandate a Constitutional penalty to another." (Bennett, *The Trade Secret Owner Versus the Patentee..., JPOS*, 1975)

In the literature, referred to above, it is also emphasized that an *in personam* right or a prior user right:

- is a first inventor's common law right,
- is required by principles of equity and due process and
- not granting it, amounts to taking property without compensation.

The contrary position, espoused by patent advocates, holds that when the choice is made to forego a patent and to rely instead on trade secret protection, the trade secret owner assumes the risk of being enjoined by the patentee. Also clearly an untenable position! How can there be such an assumed risk when the Supreme Court recognized trade secrets as viable and compatible alternatives to patents (*Kewanee Oil*, 1974; *Bonito Boats*, 1989) and when "no court has ever decided a case in which the issue was even raised." (Bennett).

The *Gore v. Garlock* (CAFC, 1983) decision has mistakenly been interpreted as putting an end to this debate by resolving the perceived conflict in favor of the patentee. Far from it! This case, which was limited by subsequent cases to an interpretation of Sec. 102(b), not Sec. 102(g), did hold that trade secrets of a third party are not prior art, but such a holding is an entirely different proposition from a holding that the trade secret owner is an infringer of a later inventor's patent and can be enjoined as such.

Maintaining secrecy is a *sine qua non* in trade secret law and is not to be equated with "concealment" in patent law, which means in a Sec. 102(g) context only too long a delay in filing a patent application in relation to another applicant, i.e. in a situation where both resort to the patent system. This is to be clearly

distinguished from a situation where one party relies on the trade secret system and is outside the patent system altogether.

Thus, it is abundantly clear that the patentee does not have superior rights vis-à-vis the trade secret owner and the reason the later patentee leaves the trade secret owner alone, is the former's concern that putting the patent on the block is risky, knowing he/she was not the first to invent and the patent may be invalid for a number of Sec. 102 and/or Sec. 102/103 grounds due to the activities of the trade secret owner, illustrating at least the level of ordinary skill in the art at the time the later invention is made. Consequently, an accommodation between the two serves them best because patent coverage continues and other competition is shut out.

In light of the above argumentation, my advice, when such a respective rights issue came up in my corporate practice, was to ignore the patents of the "Johnny-come-lately" inventor. It never boomeranged on me; after all, we do (or did in light of what follows?) have a *de facto* prior user right system.

But, you might say, a prior user rights provision, styled "First to Invent Defense," was enacted into law last year and this mooted the issue. Unfortunately, this "first-to-invent-defense" provision bears little resemblance to a true prior user right provision, as exists abroad and as was initially introduced as part of the proposed patent reform legislation. The present version is not just narrowed but totally gutted; it has so many exceptions and limitations that it is not just meaningless but dangerous.

Meaningless, because "serious and effective preparation" for commercial use is excluded, and it is this development stage which is crucial; the prior invention concerning which the defense is asserted is now required to have been reduced to practice more than one year before the patentee's filing date, and it is precisely within a year that inventions often are conceived independently by more than one inventor due to outside stimuli; and the defense, which was to apply only to manufacturing processes anyway, rather than across the board, as it should, was further constricted to cover only methods of doing business, newly patentable in the wake to last years' CAFC decision in the *State Street Bank* case.

The present, completely eviscerated version, is dangerous, because before we could rely on the existence of a *de facto* prior user right, which might not be possible after the enactment of an unduly narrow provision.

What is needed is a true prior user rights provision that would cover commercial use of an invention or effective and serious preparations for such use, prior to the filing date of the later patent, such rights being of limited alienability (personal rights — transferable only with the entire enterprise), limited territoriality (the territory of the patent), limited scope (continuation of existing

prior use) and limited recognition of prior acts (good-faith use without derivation or theft).

As a final credo, it is submitted that such a strong prior user right, which is absolutely essential in a first-to-file system, is equally important in our first-to-invent system, as a better alternative to our archaic, costly and inadequate interference practice and as a better way for protection of trade secrets in view of their transcending importance.

III. TECHNOLOGY LICENSING DOS AND DON'TS

A. Introduction

It will hardly come as news that we do have a new ball game in the field of intellectual property (IP) licensing. A simple, straight-forward plain-vanilla patent, trade secret or trademark license is practically a thing of the past; instead, complex and sophisticated hybrid agreements, option/license agreements; joint venture, corporate partnering, co-promotion or co-marketing arrangements; strategic alliances and consortium licensing are the order of the day.

And there are other very significant developments and trends in licensing attitudes and practices, in IP valuation and royalty setting or other quid pro quo choices, such as, e.g. cross licenses. And we have an entirely different antitrust climate where restrictions commonly found in license agreements are generally viewed as pro-competitive rather than anti-competitive and IP is considered property — as it should be — rather than a monopoly.

However, the basic principles as well as the key elements and terms of technology licenses will likewise be found in these modern-day sophisticated arrangements and, therefore, need to be kept in mind and mastered.

B. Royalty Setting

Misconceptions about royalties abound, e.g., licensors can charge what the traffic will bear, licensors can recoup their R&D expenses, the cost of the development of a technology is a big factor, there are royalty standards within each industry to go by, etc. None of this is necessarily true. Indeed, there is a limit to what a licensor can charge and very often it is the licensee's economics, not the licensor's that controls the royalty determination. First of all, when it comes to royalties less is more and greed rarely if ever pays off. At CIBA-GEIGY several agreements turned sour over the years because the royalties were too high, the profitability was not there and the deals could not be sustained in the end. On several other occasions, agreements had to be renegotiated for lower royalties for the same reasons.

Actually, the cost to licensor of the development of the technology is not a factor. "The research and development costs of developing the TI (Technical

Information) are sunken expenses expended by the licensor whether or not the TI is licensed and, therefore, should not be considered by the licensor in arriving at a suitable royalty." (Martin Landis, "Pricing and Presenting Licensed Technology", The Journal of Proprietary Rights, p. 18, 20, Aug. 1991) The public's interest in buying a product and, thus, "the value of a technology in the marketplace is essentially unrelated to the cost of developing it except insofar as it aids estimation of the cost in time and money of the licensee's alternative," namely, competitive development of equivalent technology. (Tom Arnold, "1988 Licensing Law Handbook," Clark Boardman, Appendix C, p. 295, 308.)

Now what about royalty standards in industry? Are there not norms in each industry to go by? This is the common belief as there are figures often being bandied about as industry averages. In an article on "Patents for Sale: Evaluating the Value of U.S. Patent Licenses", John Romary of Finnegan, Henderson in Washington, called industry average royalty rates "folklore" and "suspect as a royalty-rate guide." (8 EIPR, 385, 389, 1995.) He pointed out, for example, that "a 5% running royalty for a non-exclusive license helps very little in evaluating an exclusive license on different, but related technology and a 1.5% running royalty on technology that can be effectively designed around is equally unavailing in pegging the value of a pioneer patent critical to the competitor." (*Ibid.*)

However, Romary allows as how such averages provide additional data points, and he lists for chemicals 1-5%, electronics 1-5%, computers 3-5%, consumer products 2%, pharmaceuticals 4-15%. He also states that these figures are based on the net sales price and a non-exclusive license and — note this —that a "20 to 50 per cent premium" and "as much as a 300 per cent premium ... in the pharmaceutical field" may be a reasonable average for an exclusive license. (*Idem* at 390)

In a licensing situation, that came to my attention a while back, I came across the statement that " based on research into the matter, it can be seen that there was generally, and consistently, a ratio of 2 to 1 in the royalty rates, as between exclusive and non-exclusive licenses, regardless of the specific subject matter."

While it is generally realized that the exclusivity vel non is an important factor in royalty determination, quantification regarding the magnitude of this factor is harder to come by.

Anent factors to take into consideration in royalty setting, Tom Arnold tabulates and discusses "100 Factors Involved in Pricing the Technology License" in Appendix C of the above-referenced "1988 Licensing Law Handbook". Hence, it is a handy checklist, even though not all factors play a role in a given technology license deal. He groups them under the rubrics of intrinsic quality, protection and threats of protection, values brought to the table by the licensee, IP

portfolios and market, competitive, risk, legal and government regulatory considerations, and it is clear from his discussion that among the most important and weighty factors are a) the stage of development of the subject technology (embryonic and untested v. tested and commercial), b) the strength of the IP rights (solid v. weak, easy to design around vel non), and c) the degree of exclusivity (exclusive v. non-exclusive), discussed above.

And the fact that many other operative clauses in a technology license have economic weight, as for example, payment structures and schedules, MFL clauses, representations and warranties, etc., needs to be kept in mind, so that royalty setting is not the first task in licensing negotiations but the last one, one to be tackled after all the terms have fallen into place.

C. Content of the All-important Grant Clause

The grant clause is the most important clause in a license agreement. A typical basic grant clause might have the following five elements:

1) ABC Corp. grants (or agrees to grant or grants and agrees to grant) to XYZ Inc.
2) a (non) exclusive (or sole) license under certain IP Rights
3) to make, have made, use, offer to sell, sell or import Licensed Products (or to practice Licensed Methods)
4) throughout the Territory
5) for the duration of this Agreement.

Typically, however, such modifiers as "indivisible," "irrevocable" and/or "non-transferable" are inserted before "(non) exclusive license" in boilerplate fashion. This is inadvisable. The term "indivisible", for instance, will take away the right "to have made", which normally is implied and included in the term "to make," when it is not specifically recited. Ambiguity may result. It might also rule out the right for subsidiaries and affiliates to operate under the license. Many a dispute and lawsuit were caused by this phraseology. Nor does the term "irrevocable" belong into the grant clause. Conditions, if any, of revocability should be recited in the termination clause. The "non-transferable" language, if found in the grant clause, would not grant any right to assign or sublicense and would be ambiguous if assignment or sublicensing rights are recited. While the phraseology "nontransferable, except for the assignability provisions of Article X hereof" would cure this defect, it still should best be left out.

As regards the bundle of rights to be granted (element 3), it is preferable to track the statutory language. Other terms that are often added, e.g. "lease," "dispose of", etc. may lead to a restrictive reading because of the general rule that inclusion of one means the exclusion of the other.

Anent the territory of the license, the right to sell in foreign countries goes with a grant of a U.S. license, as a general rule, except in countries where there are foreign counterparts. But in light of frequent litigation, this issue is still quite

unsettled. In Mid-West Conveyor Co. v. Jervis Webb Co. (39 USPQ2d 1754 (10th Cir. 1996)) the following provision was construed as a grant of a world-wide license:

> Webb hereby grants to Mid-West and Mid-West hereby accepts a non-exclusive non-transferrable license to manufacture, use and sell, or have manufactured for use and sale by Mid-West, power and free conveyor systems incorporating any invention disclosed and claimed in the licensed patent (U.S. Patent No. 4,616,570) and such conveyor system being hereinafter referred to as a licensed systems.

> Even the following clause was hotly contested in another case in this regard:
> Licensor hereby grants and agrees to grant to Licensee a sole license under Licensed United States Patent Rights to make, have made, use, and sell Licensed Products throughout the U.S. during the term of this agreement. (I was an expert witness in an arbitration proceeding involving this clause. However, there was a settlement without a clearcut decision.)

However, Elliott Co. v. Lagonda Mfg. Co. (205 F.152 (W.D.Pa. Apr. 30, 1913)) where defendant was licensed to manufacture, use and sell to others "for use" throughout the U.S., the court unsurprisingly held that this language limited the defendant to selling "for use" in the U.S.

D. Assignment Rather Than Exclusive License

One of the more memorable and challenging licensing experiences I had in my whole career was when I had to go to Australia and New Zealand to chase down an elusive invention and an elusive inventor, owner and prospective licensor and had to come back with a signed patent application ready for filing in the U.S. and Canada, because we were running up against a publication statutory bar. And I had to bring back an executed exclusive license agreement, ready for execution by my management as well.

The invention had to do with a novel bovine parturition control method, which was invented by a veterinarian of a New Zealand dairy company and employed a pharmaceutical product of CIBA-GEIGY, namely, a long-acting gluco-corticoid (dexamethasone TMA). I did come back with a finished patent application, which I promptly filed upon return home in the U.S. and Canada, the only countries where veterinary methods could be patented and grace periods still permitted us to do so. And

I also came back with an assignment with a provision for installment payments based on net sales of the parturition-inducing product. Why an assignment and not a license? I don't recall why I prepared an assignment. Perhaps it was intuition, because it was not until later that I learned of Tom Arnold's suggestion in his article on licensing that

> "what is perceived by the businessman as an 'exclusive license,' is best negotiated into the form of a patent assignment with rights to reversions of title if royalties are not paid ... because the exclusive license differs from assignments only in areas (like who sues infringer and has authority to compromise in settlement) which may be better borne by the party actively in the business than by the passive transferor of the technology." (Tom Arnold, "Basic Considerations in Licensing", Les Nouvelles vol.XV, No. 3, p.171, 177, Sept. 1980)

Indeed, the New Zealand dairy company was merely a "passive transferor of the technology" and my company was going to have to do considerable additional R&D work to obtain the requisite government approvals for commercialization.

Relevant provisions in this assignment were as follows:

> (2) Assignor hereby sells, assigns, transfers and conveys to Assignee, its successors and assigns, its entire right, title and interest in and to the U.S. and Other Patent Rights, the same to be held and enjoyed by the Assignee for its own use and benefit as fully and entirely as this right, title and interest would have been held and enjoyed by Assignor if this sale, assignment, transfer and conveyance had not been made. At Assignee's expense, Assignor will from time to time, as and when requested by Assignee, execute, or have executed and deliver to Assignee such further instruments, make available to Assignee such further information in Assignor's possession, and do and have done such further acts as may be necessary or which Assignee may deem advisable in order to establish, perfect, or maintain in Assignee the entire right, title and interest in and to the U.S. and Other Patent Rights.
>
> .....
>
> (3)(a) In consideration of the sale, assignment, transfer and conveyance by Assignor to Assignee, and in full payment therefor, Assignee will, on or before March 31, 1983 and on or before March 31 in

each year thereafter until the expiration of the last to expire of the patents included among the U.S. and Other Patent Rights, pay to Assignor, as an annual installment of the purchase price for the U.S. and Other Patent Rights, an amount equal to 1% of the Net Sales of Agreement Products made by Assignee and its licensees, if any, during the preceding calendar year; provided that in any event the amount payable to Assignor with respect to the calendar year 1984 and each subsequent year shall be not less than $10,000.

.....

(6) Assignee may, on 30 days prior written notice to Assignor, terminate this Agreement by reassigning all right, title and interest in and to the U.S. and Other Patent Rights to Assignor.

Interestingly, a reversion or revestment clause in such an assignment can raise the issue of whether it is primarily a security device for assignor or creates a termination power in assignee. This happened in Ortman v. Stanray Corp. (168 USPQ 617 (7th Cir. 1971)) where a dispute arose over the following provision:

"4. Assignor, on thirty (30 days advance notice to or from Stanray, shall be revested with the entire right, title and interest in and to the said patent rights if Stanray fails or refuses to make the payments to Assignor provided for in paragraph (2) hereof or if Stanray discontinues manufacturing or acquiring milling head inserts of the type disclosed and claimed in the said patent application Serial No. 812,320 for more than one (1) year."

In this case, payments were to be made for ten years or for the life of any patent that issued but assignee stopped payments after five years in the belief that the patent did not cover its product. An action for infringement and breach of contract ensued. While the lower court ruled in favor of assignee, finding the contract clear and unambiguous on its face, the Court of Appeals reversed and remanded for admission and consideration of relevant collateral evidence, proffered by assignor to show that the clause in issue was primarily a security device for assignor.

E. The Inescapable Uncertainly Principle of Contract Drafting

The Definition section is the second most important section in any license agreement. Why? Because of the inescapable uncertainty principle of contract drafting, which is a two-pronged principle, based on a semantic dilemma and on human frailty. The former is due to the existence of undefined terms, terms that are incapable of definition and the fact that few terms are universally understood to have a single

meaning as, for example, "public domain," "line of business,", etc. An attempt at definition may often merely substitute one uncertainty for another one. Still, stiff definitions are very important.

The second prong is based on human frailty, i.e., the imperfection of human intelligence and attentiveness. Press of business is also a contributory factor. This problem which can be mitigated more easily than the semantic dilemma, leads to three defects: a) ambiguity: imprecise boundaries, two possible meanings, different from vagueness, e.g., "residence", b) excessive vagueness, e.g., "indivisible", and c) unclear modifiers, the most common and most dangerous, e.g. "a license under patent applications other than design patent applications filed before July 1, 1995".

F. Protection of Licensees from Third-party Dominant Patent Risks

Not infrequently, a licensee finds the exercise of the license blocked or impeded due to the existence or issuance of a third-party patent, mostly a dominant patent, a patent on a component or subcombination, or a patent one is aware of and rules out as being infringed but later turns into a threat due to a novel interpretation of the claims or claims scope or a novel (twisted) doctrine of infringement by the patentee (as has happened in my experience). Thus, this may occur in spite of rigorous due diligence prior to the conclusion of the license.

For its protection in such a situation, licensee should negotiate a hold-harmless clause with licensor and pursuant to this clause licensor would get licensee another license, provide a non-infringing alternative or defend an infringement suit (but not open-endedly). It could also be a cost-sharing arrangement, if any royalties have to be paid by licensee to the third-party patentee or if it comes to an infringement suit. As a last resort renegotiation of the royalty provision in the first license is a possibility. We had once a 12% royalty-bearing license with Party A. When subsequently we had to pay 6% to another "dominant" patentee, we were able to renegotiate or offset the 12% royalty to 6%, so that our total royalty exposure remained at 12%.

In another case, technical people had concluded a trade secret agreement (without the benefit of IP counsel), which was woefully inadequate for several reasons, e.g. silent on exclusivity and confidentiality obligations, and in particular on facing up to an imminent third-party patent issuance, which I was already aware of.

I, as a licensee, was then able to include a provision, which I was able to successfully assert later, that no further payments apart from the down payment would be due if the technology in question turned out to be covered by a dominant patent.

And for the benefit of Licensor, it should be pointed out that Licensor should not represent and warrant that the licensed subject matter "does not infringe any valid rights of any third party" (as was suggested in a recent issue of the Intellectual Property Strategist) because licensor can't foresee what licensee will do and evaluate the risk nor can licensor foresee, what submarine patents or other secret pending patents might

issue. All licensor can represent and warrant is that it is not aware of any patents of others that would be infringed.

G. Better Alternatives for the Common "Best Efforts" Clause

Best efforts clauses are routinely written into agreements. A "best efforts" clause to the effect that ABC "shall exercise its best efforts to exploit the Licensed Products," is useless as a device for the protection of licensor where licensee's performance is unexpectedly low or inadequate. The above clause led to litigation once, in which I served as an expert witness. It is dubious language that courts can interpret strictly or loosely as merely stating a theme rather than a course of conduct. Use of such language as "reasonable diligence consistent with the interests of the business" or "'Best Efforts' shall mean those efforts which a reasonably prudent person knowledgeable of such matters would consider desirable, necessary or commercially reasonable to further the intentions of the Parties hereunder" would be preferable or, better yet, statements of objective, quantitative criteria of performance or requirements for minimum annual royalty payments. Best of all are such mechanisms as conversion from exclusive to non-exclusive status or a termination power if specified levels of performance or annual minimums are not maintained. Of course, a lump sum up-front payment would obviate the problem completely. In an assignment with installment payments, reversion of all right, title and interest to assignor is, of course, the remedy of choice for below-par performance.

In the absence of a best-efforts clause, an obligation to employ best efforts has generally been implied where the only consideration for grant of a license are royalties. The courts have found it necessary to imply a covenant to employ best efforts as a matter of law when the contract would otherwise lack mutuality of obligation and be inequitable.

However, in the Permanence Corp. v. Kennametal, Inc. (15 USPQ2d 1550 (6th Cir. 1990)) decision, the court held that where licensee had paid a substantial lump sum and an advance on royalties when it took out the license and again when it permissibly converted the non-exclusive license to an exclusive license, no best efforts need be implied, because licensor had protected itself against the possibility that licensee would perform poorly.

H. Trouble-free MFL Clauses

An MFL clause is a frequent bone of contention in my experience and in light of the number of lawsuits in this area. It is a very important clause in non-exclusive licenses, witness the Gould Laser Patent Case History (See XI. below.). Licensees should negotiate MFL clauses to extend identical terms or to refrain from granting to subsequent licensees more generous terms, as there is no law or rule that requires licensor to do. Licensor, on the other hand, can include a so-called negative MFL clause in given situations.

A general or overly broad MFL clause, however, can be troublesome to licensor, if special circumstances arise, e.g. a license arising from a settlement or litigation. Hence, it is advisable a) to stay away from vague phrases (such as, "other terms and conditions," b) to include escape clauses or exceptions, e.g. settlements, and c) to give licensee the right to terminate and negotiate the license, if a subsequent licensee has been overly favored. Thus, it is important that an MFL provision, in order to reasonable protect licensee without excessively restricting licensor, be limited to royalty or other money terms. It is also important to provide for license to give prompt notice to licensee, whenever more favorable money terms are granted to a subsequent licenser and require licensee to accept such new terms within, say, 30 days.

An exemplary MFL clause can be found in the standard Patlex/Gould laser patent license. It was scrutinized by licensees but did not result in any lawsuit. It reads:

> ARTICLE XII — MOST FAVORED LICENSEE
>
> If subsequent to the Effective Date of this Agreement another manufacturer of lasers, laser systems, or Low or High Power Laser Tubes similarly situated to LICENSEE is granted a license by PATLEX which provides to said another manufacturer a combined royalty rate and royalty base materially more favorable to said another manufacturer with respect to any of the Licensed Patents than that provided herein to LICENSEE for lasers, laser systems and Low or High Power Laser tubes sold or leased in the United States, then LICENSEE may, at its option, adopt the subsequent license in its entirety, mutatis mutandis, as of the effective date of such subsequent license. PATLEX shall notify LICENSEE of any such subsequent license and provide LICENSEE an opportunity to exercise the option provided herein.

A comprehensive and excellent article on this subject appeared in 1997 in Les Nouvelles.
(*See* Patrick O'Reilly and Michael Morin, "Troubles for Most-Favored Licensees," Les Nouvelles, vol.XXXIII, No. 1, p. 26, March 1998)

I. Additional Clauses Needing Close Attention

A typical technology license requires negotiation and drafting of several, if not many, additional explicit clauses, which are also very important and need meticulous attention. To name but a few:

Confidentiality — crucial where trade secrets are involved but excepting situations where a) the trade secret is already in the public domain, b) enters the public domain without fault of licensee, c) is disclosed to licensee by a third-party who has a right to make such disclosure or d) was already independently developed by licensee; putting a limit of years on licensee's confidentiality obligation is a must.

Improvements — whether to be "granted back" by licensee to licensor or to be "granted forward" by licensor to licensee where they continue their R&D, a narrow, precise definition, preferably tied to the scope of the patent claims and in non-exclusive form, is requisite.

Sublicensing rights — especially important in exclusive licenses for practical and legal reasons because absent such a clause which cannot be implied, no further licenses can be granted by either party, even if it is desirable to do so. (*See* the exhaustive discussion of this topic in the following article: Julie Schwartz, "Antitrust Issues Can Arise When Sublicensing," Les Nouvelles, vol.XXXII, No. 3, p. 153, Sept. 97)

Termination — this third most important element is a multipronged concept, where each prong needs to be defined separately, inasmuch as a license never terminates over night, since different rights and obligations of the parties, such as, making reports, paying accrued royalties, auditing books, returning documents, maintaining secrecy, etc., continue after termination. (*See* Patricia Schreck, "The Importance of Termination Clauses in License Agreements," The Licensing Journal, p. 5, August 1997)

J. Implied Licenses Based on Conduct and Relationship

Licenses may be granted not only by means of an express written agreement, be it a formal document or a letter agreement — the most common and best forms — but also via an informal written agreement, an oral or parol agreement or an implied license as a consequence of conduct or relationship of the parties.

A formal written agreement may become effective and enforceable even if the agreement is not executed and delivered, provided the terms are agreed to and an intent to be bound is shown. An informal written agreement, via e.g. informal correspondence or a letter of intent, is likewise effective and enforceable, if it is intended to be a prelude to a formal contract and if an intent to be bound in advance is exhibited or if a formal contract is viewed as a mere memorialization. If there is no such intent, no license enters into force until there is execution of a formal contract. Hence, it is advisable to evidence lack of intent by a special letter agreement to that effect.

An oral or parol agreement is difficult to enforce to begin with because of its nature, especially after passage of time, and, of course, is unenforceable if it is not to be performed within a year, is void if it falls within the statute of frauds, and is not effective if it is an assignment in legal effect against a subsequent assignee without notice.

Conventional wisdom has it that if you don't have it in writing you don't have it or a "verbal agreement isn't worth the paper it's written on" (Samuel Goldwyn). On the other hand, McDonald has suppliers with whom they have been doing business with "for 40 years on the basis of a handshake, with nothing on paper." (The National Law

Journal, p. B5, Feb. 3, 1997) But enforcing handshake agreements and letters of intent is difficult and risky, as can be seen from the case of Fox News Network v. Time Warner,(1997 WL 271720 (E.D.N.Y., May 16, 1997)) which raises the issue of when is a deal a deal. In connection with the merger of Time Warner and Turner Broadcasting in 1995, Time Warner needed an additional unaffiliated cable news service and hence negotiated with two news services, namely, MSNBC and Fox News. When Time Warner chose MSNBC over Fox, Fox sued, alleging that Time-Warner had assured Fox during their negotiations that they were in agreement and all details were set; but the court found that they never had reached an agreement, inasmuch as there was no clear evidence that they intended to be bound, had a meeting of the minds on all material terms and there was an unequivocal acceptance of those terms. Richard Tashjian with reference to the Fox News case also discusses the case of Shann v. Dunk (84 F.3d 73 (2d Cir. 1996)) in his article "When is a deal a deal? A recent 2d Circuit decision established a framework for determining when negotiations have actually led to the creation of a contract." (Richard Tashjian, The National Law Journal, p. B4, June 23, 1997) In the Shann decision, two types of preliminary agreements were summarized. Firstly, a "type I" agreement "where all essential terms have been agreed upon in the preliminary at 77) contract, no disputed issues are perceived to remain, and a further contract is envisioned primarily to satisfy formalities" (*Shann v. Dunk*, 84F.3d) and, secondly, a "type II" agreement "where the parties recognize the existence of open terms, even major ones, but, having agreed on certain important terms, agree to bind themselves to negotiate in good faith to work out the terms remaining. In type II agreements, the parties do not bind themselves to conclude the deal, but only to negotiate in good faith toward conclusion within the agreed framework." (Richard Tashjian, *Ibid.*)

According to Richard Tashjian:

> "The difference in consequences flowing from a breach of a type I agreement or a type II agreement can be significant. Under a type I agreement, a party is generally entitled to recover benefit-of-the-bargain damages. The damages flowing from a breach of a type II agreement, however, are not so clear. While some courts have awarded benefit-of-the-bargain damages, other courts have only awarded reliance damages on the theory that it would be unreasonable to assume that such an 'agreement to agree' would have ripened into a contract." *(Ibid.)*

Not infrequently, however, a license may come into being by implication through conduct and/or relationship between parties. Thus, implied licenses can arise from acquiescence and laches, where patent owners sit on their rights rather than enforcing them against infringers.

The most common and best-known implied license is a so-called shopright arising from an employer-employee relationship. In a general employment and in the absence of an express agreement, requiring an employee to assign an invention made by him or her

during the terms of employment (and afterwards pursuant to a trailer clause), an employer may acquire a shopright or an implied non-exclusive limited license to use such an invention for its own purposes and only for its own purposes, provided the invention was made on company time with company resources.

Even in a licensor-licensee relationship, an implied license may be acquired, although a licensee under one patent does not ordinarily or necessarily include an implied license under another patent. However, it may occur in the case of an unlicensed but indispensable patent as for example a dominant patent that issued to the licensor later or an earlier-issued dominant patent that is later acquired by licensor.

Likewise, in a seller-buyer relationship, where the seller sells an article or component for use in a patented method or combination, the buyer may acquire an implied license under seller's method or combination patent, although ordinarily the sale of an element of a patented method or combination carries no implied license.

However, an implied license in a seller-buyer relationship requires clear implication, as is illustrated by the Jacobson v. Cox Paving Co. (9 USPQ2d 1641 (D. Arizona 1991)) decision, where Jacobson sued Cox for infringement of Jacobson's rubber-asphalt paving material patent. Cox defended on the grounds that Jacobson had given him an implied royalty-free license by virtue of Jacobson's sale to Cox of a used asphalt-rubber distributor truck, which could be used to apply the patented asphalt-rubber material. Cox's president admitted that he had paid Jacobson royalties for a single asphalt-rubber paving job recently and that the company had received a proposed patent license agreement and it had had several prior discussions with Jacobson regarding the payment of royalties. According to the court, there are two requirements to support an implied license and Cox failed on both counts: (1) The circumstances of the sale must plainly indicate that a grant of a royalty-free license should be inferred; and (2) the product must have no other non-infringing uses. When an equipment purchaser is notified at the time of sale of a requirement for a patent license, such express notice precludes the grant of an implied license under the patent. It was also shown that the truck, which was sold by Jacobson to Cox, could be, and had in fact been, used by Cox to apply conventional asphalt paving materials. This in combination with Jacobson's express royalty demands, according to the court, eliminated any basis for a finding of a royalty-free implied license running from Jacobson to Cox.

Finally, in a business relationship, conduct, as for example, close cooperation on an innovative project can give rise to an implied license. Witness the recent case of Wang Laboratories v. Mitsubishi Electronics (41 USPQ2d 1263 (Fed. Cir., 1997)) — a case of the unwritten patent license. In this case, Wang's James Clayton invented the basic memory module, known as a SIMM (single in-line memory module). Wang was not a components manufacturer and did not want to develop and manufacture SIMMs. Rather, it wanted companies like Mitsubishi to make SIMMs in large quantities so that SIMMs could be used economically in Wang's computers. But memory manufacturers did not want to make Wang's design until they knew that the SIMM would be a general standard in the industry. Wang began to convince the Joint Electronic Device Council

(JEDEC) to adopt the Wang SIMM as an industry standard, which JEDEC did. In the meantime, Wang had been talking with Mitsubishi to convince it to enter the SIMM market in a big way so that prices would come down. Mitsubishi complied and Wang began buying Mitsubishi's SIMMs. Wang then asserted its patents, which it also had obtained in the meantime, against the industry that it had created. It sued everybody, including Mitsubishi. The whole industry opted to settle rather than fight, with Wang issuing more than 40 licenses at a royalty rate of 3%. The one major holdout was Mitsubishi. Mitsubishi felt betrayed, inasmuch as Wang had induced Mitsubishi to enter the field, had encouraged it to spend millions of dollars on research and development, had hidden the fact that it was seeking patent protection, and now was suing Mitsubishi for doing exactly what Wang had asked it to do. Moreover, Wang had clearly gotten a free ride on SIMMs, since Mitsubishi had not charged its costs for engineering SIMMs to Wang, and Wang was able to charge lower prices. Given this behavior pattern of strong inducement by Wang leading directly to Mitsubishi's entry into the field, the court concluded that Mitsubishi had an implied license under Wang's patents.

This case shows that the formerly infrequently used and often unsuccessful implied-license defense, where a court must scrutinize the entire course of conduct between the parties to determine whether a license was created in the absence of a written document, can be successful.

K. Licensing Case History — Gould Laser Patents

This licensing story played out in the eighties. But it is not ancient history at all. Invaluable lessons can be learned from the masterful licensing scheme of the Gould laser patents, as it illustrates important licensing concepts and ingenious licensing strategies. First and foremost, it shows that one can be very creative in crafting win-win license agreements and thereby resolve intractable controversies and disputes. As was stated by Tom Arnold:

> "(T)he various clause concepts are as keys upon a piano. Each may be played loudly, softly, staccato or with lingering resonance; and each may be played in solo melody or in chords with the others in infinite variety; they constitute a piano upon which infinite varieties of transactions can be played." (Tom Arnold, "Basic Considerations in Licensing", Les Nouvelles, vol.15, p.171, 177, Sept. 1980)

Gould invented the laser during the late 1950's while a graduate student at the University of Columbia, but he was not taken seriously for decades. Now with hundreds of licensees and possibly more than $100 million in gross licensing revenue, he is recognized as a laser pioneer.

Gould's early efforts to obtain patent protection for his invention were consistently rebuffed by the USPTO. Interferences were declared between his

applications, the first of which was filed on April 6, 1959, and the applications of other companies.

A number of U.S. patents were, however, eventually issued to Gould, and three of these were broad, basic patents and commercially very significant. The first was U.S. Patent No. 4,053,845, entitled "Optically Pumped Laser Amplifier", which was issued on October 11, 1977. This patent covered most solid-state lasers but before this patent could be licensed or asserted, three reexamination requests were filed in 1982 and in 1983. The reexamination certificate, confirming the patentability of all claims, was not issued until 1987, following protracted legal proceedings. Earlier filed patent infringement litigation against Control Laser Corp. in the Middle District of Florida, had been stayed pending the outcome of the reexaminations.

The second commercially significant patent that issued to Gould on July 17, 1979, U.S. Patent No. 4,161,436, was entitled "Method of Energizing a Material", and covered most uses of commercial lasers. As was the case with the preceding patent, multiple reexamination requests were filed in late 1982 with the patentability of all claims not confirmed until 1988. Again, extensive court proceedings were required before this favorable result was achieved.

U.S. Patent No. 4,704,583, entitled "Light Amplification Employing Collisions to Produce a Population Inversion", the third major Gould patent, did not issue until November 3, 1987. This patent, covering gas discharge lasers was only issued after a favorable CAFC decision the preceeding June.

The licensing effort for the Gould patents had initially been undertaken by Refac Technology, a New York City-based invention brokering and licensing company, with notable lack of success. It was not until Patlex Corp. took over this effort in the early 1980's that the licensing effort took off. Patlex secured public funding and engaged Richard Samuel, who had been working extensively on the Gould laser patents while a partner at the law firm of Lerner, David, Samuel et al, to take over active management of Patlex.

Since efforts to license the '845 Patent were relatively stymied by initially unfavorable decisions in the reexamination proceedings in the USPTO, coupled with a general unwillingness of lasers manufacturers to take a license before the Control Laser suit in Florida was completed, much effort was directed to licensing the '436 Patent to laser users. While a number of early user licenses, such as AT&T, GE, GM, and IBM involved conditional payments, payment schedules, payments based on laser usage, minimum and maximum payments and other non-standard features, the user licensing program quickly evolved into a standard format in which the laser user paid to Patlex a 6% royalty on the purchase price of all infringing lasers purchased from an unlicensed laser manufacturer. The licensed laser user paid nothing to Patlex for lasers purchased from a licensed laser manufacturer.

This effort to license laser users was designed to provide revenue to Patlex, but more importantly, to encourage the laser users to prevail upon the laser manufacturers to take a license directly from Patlex at a maximum royalty rate of 5%. Until, however, the outcome of the Control Laser litigation, this strategy had only limited success.

The Control Laser suit proceeded to trial in September of 1987 following the favorable conclusion to the reexamination of the '845 Patent earlier that year. In October 1987, the jury found that the '845 Patent was both valid and infringed. During the damages phase of the trial, which immediately followed, Patlex reached settlement agreements with Control Laser, and also with Quantronix, which had previously agreed in separate litigation to be bound by the outcome of the Control Laser suit.

The terms of these two substantially identical licenses, which became standard agreements, besides having significant payments for past infringement, included a 5% royalty for lasers infringing the '845 Patent. Lasers covered by the '436 Patent required a 3% royalty until reexamination of the '436 Patent was completed (which occurred in April 1988) and a 5% royalty rate thereafter. A step-up royalty rate was provided for gas discharge lasers under the '583 Patent with each licensee having the opportunity to select two gas discharge laser competitors to trigger royalty rate increases from the initial royalty rate of 2% to the final royalty rate of 5%. When one of the named competitors, namely, Coherent or Spectra-Physics, the two largest laser manufacturers and hold-outs, was either licensed or sued by Patlex, the rate increased to 3.5% and the final rate became effective when both named competitors were either licensed or sued. A multiple patents provision prevented the payment of more than one royalty where the royalty bases overlapped and another provision limited the royalty rate on foreign sales to 2%.

Following the licensing of Control Laser and Quantronix, the licensing activity began to accelerate and many other laser manufacturers and laser users quickly became licensees. Coherent and Spectra-Physics (then a subsidiary of CIBA-GEIGY) remained out of the fold until the fall of 1988.

The breakthrough came, first with Coherent, followed closely by Spectra-Physics, with the negotiation of volume breakpoints (or descending royalty rates), at which the royalty rates would be reduced from the standard rates as sales volume increased, as follows: $0-$15 million, 5.0%; $15-$20 million, 3.0%; $20-$25 million, 1.0%; and $25 million and above, 0.5%. Spectra-Physics' sales volume was far in excess of $25 million. These same volume breakpoints were, of course, offered to all existing licensees in accordance with the usual most favored licensee (MFL) provision of the licenses.

Most licensees paid a 5% royalty, since most licensees had U.S. sales under $15 million. Spectra-Physics' effective royalty rate was about 1.7% due to the volume breakpoint scheme. Since Spectra-Physics further negotiated caps on royalties and a lump-sum payment on "present value" terms, their total royalty obligations were discharged by a check in an amount of less than $10 million. This contrasted very favorably with litigation cost exposure of over $5 million. And, in case of defeat, a total royalty exposure of about $50 million. Although other licensees insisted on getting the

"same effective rate" under the MFL clause rather than just the "same terms," no litigation ensued about this issue. In fact, when Amoco was allowed to partially "pay-up" their license and this deal was offered to other licensees, there were no takers.

This case history clearly illustrates the dynamic interplay of step-up royalty/MFL clauses and a descending royalty scheme, with the former inducing the smaller players to sign up when the bigger competitors — here Coherent and Spectra-Physics — are holdouts and thus have an additional competitive edge by not paying any royalties. And the descending royalty schedules entice the holdouts to take out licenses, inasmuch as their total royalty exposure is significantly reduced, e.g. down to about 1.7% in the case of Spectra-Physics. (This Licensing Case History is based partly on my own experience and materials and partly on a memorandum provided me for use in my IP Licensing/Technology Transfer classes by Albert Miller, former Patlex Director of Patent Operations.)

L. Licensing Case History — Clock Calculator Patent

In the early 1970's, The Garrett Corporation, a Lost Angeles based diversified aerospace company (now part of Allied-Signal Aerospace Company) decided to get into the business of manufacturing and selling semiconductor chips. In its wide-ranging activities Garrett utilized a number of semiconductor chips in a variety of different products and considered the market for future growth to be excellent. Garrett set up a separate subsidiary, Garrett Comtronics Corporation, to construct a manufacturing facility in northern San Diego County and acquire the rights to second source certain chips from a leading chip manufacturer who supplied chips to Garrett.

About this same time, it was also determined to produce a line of desktop calculators which would utilize some of the chips manufactured in the new facility. As part of the development of this calculator, an integrated clock calculator was invented which included a common keyboard, power supply, and display. This invention became the subject of a U.S. patent application and later corresponding applications in Canada, Western Europe and Japan.

To make a long story short, neither the semiconductor chip manufacture nor the calculator/clock calculator assembly were business successes and after a couple of years Garrett ceased chip manufacture and sold the facility in northern San Diego County. By this time, the Japanese were saturating the U.S. market with low cost calculators. After another year or so, Garrett, which no longer manufactured any components, discontinued assembly of its calculators and clock calculators. At that time all that Garrett had to show for its efforts were the patent rights in the clock calculator invention. U.S. Patent No. 3,813,533 issued on May 28, 1974 with 45 claims.

The Japanese calculator manufacturers, buoyed by their successes in the U.S. market, soon began manufacturing more full-featured calculators, including clock calculators. Desktop, hand held, and wrist-mounted models were produced and sold in

great numbers throughout the world. Needless to say, this fact did not go unnoticed by Garrett.

An exhaustive validity search and study was conducted by outside counsel and not surprisingly a strong validity opinion was rendered. Although some people were skeptical about the clock calculator invention because of its relative simplicity, the claims of the patent, many of which were broad in scope with means plus function language, clearly distinguished over the prior art.

Representative clock calculator models were identified from each of the major manufacturers, with trade shows such as the Consumers Electronics Show being particularly useful. Actual models were purchased and carefully examined with respect to the claims of the patent. These models were dissembled with the help of technical experts and detailed claim charts were prepared comparing actual photographs of the disassembled clock calculators with representative claims. The cost of all of this was not insubstantial but it was considered essential before proceeding further.

Once validity and infringement were reasonably established, it was necessary to develop a comprehensive overall licensing strategy. Over a period of time, and with the assistance of outside counsel, the following decisions were reached:

1.) Ownership of the patent would be transferred to a newly created Texas subsidiary corporation having an independent minority interest and at least one independent officer and director. An office for this corporation, later named Garrett Comtronics Licensing Corp., would be maintained in the Dallas, Texas offices of outside counsel.

2.) Although a case could be made for infringement, the patent would not be asserted against clock calculators where the clock was set by a slew switch, that is when a key or switch is held down to cycle through a sequence of numbers and released when the desired numbers are displayed. Most clock calculators, except for the watch calculators of certain manufacturers, set the clock by means of the numerical keys on the keyboard.

3.) A low royalty rate would be established which was finally selected as one and one/half percent (1 1/2%).

4.) A maximum royalty base would be established so that royalties would not have to be paid on extraneous components added to the clock calculator, such as radios, telephone, lighters, etc. This maximum, finally selected as $45.00, would also protect the manufacturer who actually sold a gold plated watch calculator.

5.) Since the market place was dominated by three large Japanese manufacturers, we would offer paid-up licenses. A negative most favored licensee clause would be included in all license agreements.

6.) At least one internationally known U.S. clock calculator manufacturer would be licensed before the Japanese manufacturers would be contacted. Notice was not a problem since Garrett Comtronics Corporation had properly marked its clock calculators with the patent number(s) during the period that they were sold throughout the world, including Japan.

7.) Complete license documents would be prepared for both the paid-up and running royalty agreements.

Once the licensing strategy had been worked out, its implementation went rather smoothly. The initial licensee, a small nice player in the U.S., but well known internationally, was quickly signed to a running royalty license. Within a year, each of the Japanese behemoths had taken a paid-up license with the amounts roughly related to their respective share of the market. The first Japanese licensee actually came to Dallas, Texas to negotiate the license while the other two major Japanese players required visits to Japan to conclude agreements.

Over the next couple of years more than thirty licenses were signed with companies from throughout the world. It was not necessary to file a single piece of litigation during this licensing process and no prospective licensee ever brought suit.

The success of this licensing strategy undoubtedly reflects the effort which went into its development. A thorough understanding of the marketplace, the establishment of a reasonably royalty rate and base, and detailed preparation for the meetings with prospective licensees were all essential elements. For example, professionally produced color claim charts, buttressed by actual infringing models, were very effective in diffusing infringement arguments. Likewise, no prospective licensee was ever able to bring up prior art that had not already been considered.

Although a specific negative most favored licensee provision was included in all agreements, there was never any deviation from the established royalty rate and base. For a time, a minimum initial payment for past infringement was maintained which could be applied to future royalty payments if actual past infringement was less. As the prospective licensees became smaller, this requirement was dropped.

While the heyday of clock calculators has long passed, and they were eventually sold for less than $10, some royalty continues to come in since the U.S. patent will not expire until May 28, 1991. Significantly, total licensing revenues from this single invention have, however, already exceeded five million dollars with more than one-half coming from the three paid-up licenses. Indeed, the clock calculator invention provided a happy ending for an otherwise disastrous business venture. (This Case History is likewise based on a communication from Albert Miller, reflecting licensing experience of his while Patent Counsel for Garrett Comptronics Corporation.)

M. Conclusion

The above discussion of key elements in technology licenses, such as, patent, trade secret, or most often, hybrid patent/trade secret licenses, has demonstrated, on the one hand, that truly lasting win/win agreements can be crafted to solve even completely intractable situations by combining available licensing clauses in ingenious ways or designing and fashioning novel clauses, like playing music on a piano.

On the other hand, lessons to be learned from the above cases are that it is risky to copy boiler-plate clauses from different agreements blindly and to rely on implication when it comes, e.g., to best efforts or MFL clauses, representations and warranties, rights to have made rather than merely make, rights to sell in foreign countries, sublicensing rights, etc. Express provisions that, e.g. sublicensing rights are or are not granted, an MFL clause is or is not included, are by far preferable, if not requisite.

Karl F. Jorda
David Rines Professor of IP Law and Industrial Innovation
Director, Kenneth J. Germeshausen Center for the
Law of Innovation and Entrepreneurship
Franklin Pierce Law Center, Concord, NH

IP MANAGEMENT PROGRAM

- Encourage employees to bring to the attention of management inventions, designs, product names and other 'good ideas'.
- Provide a system to evaluate the 'good ideas', so that the appropriate protection can be sought for those that may have present or future value.
- Ensure that ownership is acquired for all employee developed patents, trademarks, copyrights and trade secrets.
- Ensure that all inventions and other technological developments are properly documented and corroborated.
- Provide a system to minimize risk of infringing the intellectual property rights of others.
- Provide a system to evaluate patents and related technology for commercial development through licensing.
- Continuously monitor the corporation's commercial products and market position to ensure that patents are providing effective commercial protection.
- Monitor the competition to identify potential infringers.

ATTACHMENT II

INITIAL

CIBA-GEIGY

CIBA-GEIGY Corporation Interoffice Correspondence

To: PATENT DEPARTMENT
Location: ARDSLEY

Date:

COPY TO: ☐ SUPERVISOR
☐ DEPARTMENT HEAD
☐ _____

From:
Location:

Subject: INVENTION DISCLOSURE

NUMBER: _____

1. TITLE OF INVENTION _____

2. DESCRIPTION OF INVENTION – IF CHEMICAL COMPOUNDS, DESCRIBE VARIATIONS IN SUBSTITUENTS AND GROUPS AND SYNTHETIC ROUTE FROM KNOWN STARTING MATERIALS. IF COMPOSITION OR NEW USE, DESCRIBE PROPORTIONS AND APPLICATIONS. FOR NEW PROCESS, DESCRIBE ALL CRITICAL CONDITIONS; ATTACH ADDITIONAL SHEETS IF NECESSARY; ALSO ATTACH COPIES OF ALL AVAILABLE EXPERIMENTAL DATA.

3. UTILITY OF INVENTION

4. OBJECTIVE OF INVENTION – DESCRIBE HOW INVENTION SOLVES PROBLEM OF THE PRIOR ART. WHAT IS BELIEVED INVENTIVE ABOUT THE PROCESS, PRODUCT OR APPARATUS ?

5. WORKABLE EXTENT OF INVENTION – DESCRIBE ANY VARIATIONS OF A BROADER SCOPE THAN THOSE DESCRIBED IN PART 2. WHAT ARE THE PLANS FOR FUTURE WORK ?

6. RELEVANT PRIOR ART – INCLUDE PATENTS, SCIENTIFIC ARTICLES, TECHNICAL BULLETINS AND THE LIKE INSOFAR AS THEY ARE KNOWN TO YOU. SPECIFICALLY MENTION WHETHER PUBLICATION OR OUTSIDE DISCLOSURE HAS OR WILL OCCUR AND IF SO WHEN.

7. INVENTOR(S) SIGNATURE _____ DATE _____

_____ DATE _____

_____ DATE _____

DATE OF CONCEPTION _____

DATE OF FIRST WRITTEN RECORD _____ NOTEBOOK REF. _____

DATE OF FIRST PREPARATION _____ NOTEBOOK REF. _____

DATE OF FIRST TEST _____ NOTEBOOK REF. _____

DISCUSSED WITH INVENTOR ON _____ BY _____

☐ FILE CASE _____ DATE _____
☐ SEARCH
☐ HOLD

INVENTION REPORT

(FORMAT OUTLINE)

I. Subject of invention. Define in generic and subgeneric (preferred) terms the scope of the invention. In the case of chemical compounds indicate the formula and possible variations in structure.

II. Specific embodiments. List all embodiments on hand. For chemical compounds this should include identification number and correlation to specific exemplification (see Sec. VII) and generic formula (see Sec. I).

III. Prior Art. Describe and comment on all pertinent prior art. Establish distinction over prior art. Give specific references and indicate subjects and sources searched.

IV. Utility. Describe specifically and in detail what the invention is used for. Define concentration or dosage ranges at which any compounds would be used. Correlate model testing to actual use.

V. Synthesis, formulation or manufacture. Describe how the object of the invention has actually been made and what alternative methods and materials could also be used. State ranges for reaction conditions. Described source of starting materials.

VI. Future plans - Describe all related work which is being considered for future exploration.

VII. Support. List full experimental details including all available test results.

Monsanto

AGREEMENT

In consideration of the compensation and other benefits of my employment and continued employment by Monsanto Company or one of its Subsidiaries, and of other valuable consideration, I agree with Monsanto as follows:

EMPLOYMENT BY MONSANTO

As used herein, "Monsanto" means Monsanto Company or one of its Subsidiaries, whichever is my employer. The term "Subsidiary" means any corporation, joint venture or other business organization in which Monsanto Company now or hereafter, directly or indirectly, owns or controls more than a fifty percent (50%) equity interest.

During my Monsanto employment I shall devote my working time and best efforts to the service of Monsanto and shall comply with the policies and procedures of Monsanto, including those relating to security and employee conduct, and I shall not engage in any planning or other business or technical activity, competitive with or in conflict with the business interests of Monsanto Company or any Subsidiary.

CONFIDENTIAL INFORMATION

As used herein, "Confidential Information" means all technical and business information of Monsanto Company and its Subsidiaries, whether patentable or not, which is of a confidential, trade secret and/or proprietary character and which is either developed by me (alone or with others) or to which I have had access during my employment. "Confidential Information" shall also include confidential evaluations of, and the confidential use or non-use by Monsanto Company or any Subsidiary of, technical or business information in the public domain.

I shall use my best efforts and diligence both during and after my Monsanto employment to protect the confidential, trade secret and/or proprietary character of all Confidential Information. I shall not, directly or indirectly, use (for myself or another) or disclose any Confidential Information, for so long as it shall remain proprietary or protectible as confidential or trade secret information, except as may be necessary for the performance of my Monsanto duties.

I shall deliver promptly to Monsanto, at the termination of my employment, or at any other time at Monsanto's request, without retaining any copies, all documents and other material in my possession relating, directly or indirectly, to any Confidential Information.

Each of my obligations in this section shall also apply to the confidential, trade secret and proprietary information learned or acquired by me during my employment from others with whom Monsanto Company or any Subsidiary has a business relationship.

I understand that I am not to disclose to Monsanto Company or any Subsidiary, or use for its benefit, any of the confidential, trade secret or proprietary information of others, including any of my former employers.

COMPETITIVE ACTIVITY

I shall not, directly or indirectly (whether as owner, partner, consultant, employee or otherwise), at any time during the period of two years following termination for any reason of my final employment with Monsanto Company or any Subsidiary, engage in or contribute my knowledge to any work or activity that involves a product, process, apparatus, service or development which is then competitive with or similar to a product, process, apparatus, service or development on which I worked or with respect to which I had access to Confidential Information while at Monsanto Company or any Subsidiary at any time during the period of five years immediately prior to such termination ("Competitive Work"). However, I shall be permitted to engage in such proposed work or activity, and Monsanto shall furnish me a written consent to that effect signed by an officer, if I shall have furnished to Monsanto clear and convincing written evidence, including assurances from me and my new employer, that the fulfillment of my duties in such proposed work or activity would not likely cause me to disclose, base judgments upon, or use any Confidential Information. Following the expiration of said two year period, I shall continue to be obligated under the "Confidential Information" section of this Agreement not to use or to disclose Confidential Information so long as it shall remain proprietary or protectible as confidential or trade secret information.

During my employment by Monsanto and for a period of two years thereafter, I shall not, directly or indirectly, induce or attempt to induce a salaried employee of Monsanto Company or any of its Subsidiaries to accept employment or affiliation involving Competitive Work with another firm or corporation of which I am an employee, owner, partner or consultant.

IDEAS, INVENTIONS OR DISCOVERIES

I shall promptly disclose to Monsanto all ideas, inventions or discoveries, whether or not patentable, which I may conceive or make, alone or with others, during my employment, whether or not during working hours, and which directly or indirectly

(a) relate to matters within the scope of my duties or field of responsibility during my employment by Monsanto Company or its Subsidiaries; or

(b) are based on my knowledge of the actual or anticipated business or interests of Monsanto Company or its Subsidiaries; or

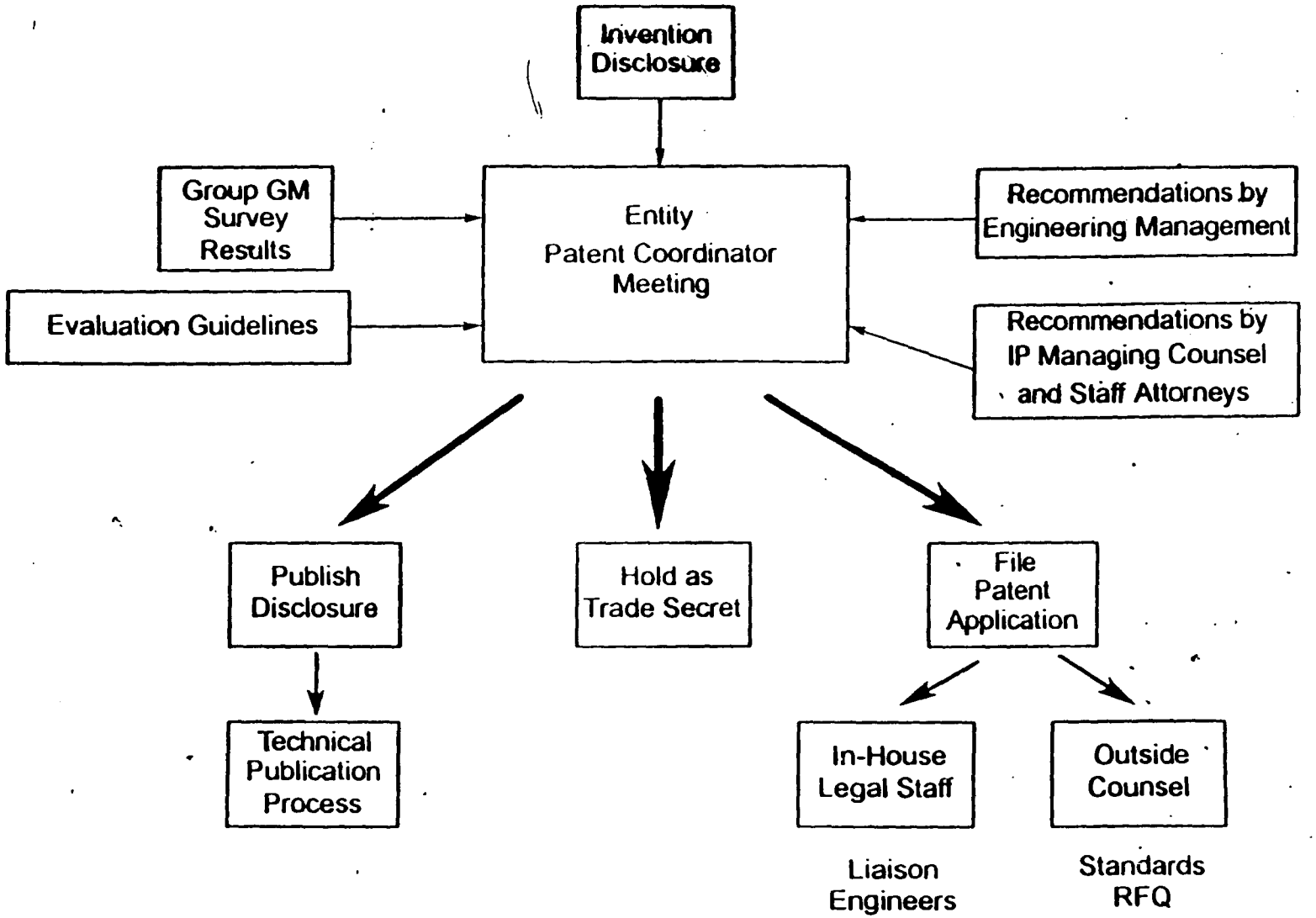
(c) are aided by the use of time, materials, facilities or information of Monsanto Company or its Subsidiaries.

I hereby assign to Monsanto Company or one of its Subsidiaries (whichever was my employer at the time the invention was conceived or made), without further compensation, all of my right, title and interest in all such ideas, inventions or discoveries in all countries of the world.

Without further compensation but at Monsanto's expense, I shall give all testimony and execute all patent applications, rights of priority, assignments and other documents and in general do all lawful things requested of me by Monsanto to enable Monsanto to obtain, maintain, and enforce protection of such ideas, inventions and discoveries for and in the name of Monsanto Company or one of its Subsidiaries (as the case may be), or its nominee, in all countries of the world. However, should I render any of these services following termination of my employment, I shall be compensated at a rate per hour equal to the basic salary I received from Monsanto at the time of termination and shall be reimbursed for reasonable out-of-pocket expenses incurred in rendering the services.

ATTACHMENT IV

Invention Review



ATTACHMENT V

TRADE SECRETS
True or False?

1) Patents and trade secrets are at best only alternative forms for protection of innovation.

2) Trade secrets at best are but supplements to patents.

3) Patents and trade secrets are mutually exclusive and one or the other has to be chosen for protection to the exclusion of the other.

4) Because the patent system requires enabling and best mode disclosures, patents necessarily disclose and hence preempt all the trade secrets that are useful in the practice of the patented invention.

5) Because patents require disclosure of the invention as a quid pro quo for exclusivity, it is reprehensible to rely on trade secrets.

6) The patent specification, which discloses the best mode and otherwise is enabling, as is required, is sufficient for practicing the invention or for licensing.

7) Trade secrets are merely a matter of "contract rights created in trade secret agreements", that is, no contract rights, no trade secrets. Hence, trade secrets are not property per se like patent and copyrights.

8) The fact that the trade secret to be utilized must be disclosed to others under secrecy obligation set forth in a non-disclosure, confidentiality, secrecy or pre-negotiation agreement, makes trade secret protection merely a matter of contract law.

9) Know-how, trade secrets and confidential, proprietary or "undisclosed" information are synonymous terms and can be used interchangeably.

10) There are great differences between patent and trade secrets in terms of duration, scope of protection, kind of protection, degree of exclusivity, and costs.

11) A patentable invention must be patented for protection, while only unpatentable know-how can be protected via trade secrets.

12) A trade secret by definition is "concealed" and "suppressed" under § 102(g), so that a patentee has superior rights, even if he/she made the invention later in time.

13) "Under current U.S. law the inventor who chooses trade secret protection, accepts the risk that another inventor will seek and obtain patent protection, thereby excluding the original inventor from using his/her own creation." (Pooley, MIP, Oct. '99, p.68)

14) Trade secrets don't need protection because they are secrets. (So what's there to talk about?)

15) "Trade Secrets are the cesspool of the patent system." (Professor Kayton)

P.S. All of the above are demonstrable misconceptions!