FRANKLIN PIERCE LAW CENTER
GERMESHAUSEN CENTER NEWSLETTER • *Winter 2002*

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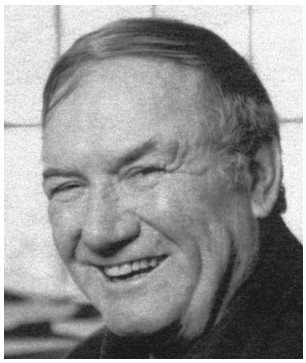
IN MEMORY OF ROBERT SHAW

PROFESSOR OF LAW AND DIRECTOR, PTC RESEARCH FOUNDATION

BY JON R. CAVICCHI, I.P. LIBRARIAN AND ASSISTANT PROFESSOR OF RESEARCH



ROBERT SHAW passed away on January 4, 2002 after long and difficult health challenges. Many faces have come and gone at Pierce Law in the past five years since Bob Shaw retired. Change is constant and natural. We head into the future with new faculty and staff who will build their own legacy of success. Nonetheless, as we face the future, it is helpful to look at the past, lest we forget those who have gone before us and presented us with a solid institution with the oldest and most renowned IP programs in the nation. Bob Shaw was instrumental in building the IP programs we have today. I spoke to faculty, staff and alums to prepare this celebration of the life and career of this man, who was most of the time quiet and humble, and at other times outspoken on topics and causes he deeply cared about. Those who worked with Bob over his two decades at Pierce Law agree with Professor Tom Field, who characterized him "as a consummate professional who took practice and teaching very seriously." He was dedicated to his family, patent law, his students and legal education.

Bob was a native of Illinois. He received his B.S. (Electrical Engineering) from the University of Illinois and his LL.B. from New England School of Law. Bob was a fighter pilot in World War II for the Navy, flying Wildcats off of Jeep carriers in the Pacific, landing at night on

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PROFILE: SILKE VON LEWINSKI

BY SAMANTHA WHITNEY (JD/MIP '03)

SINCE 1993, Dr. Silke von Lewinski has been an adjunct professor at Franklin Pierce Law Center (Pierce Law), teaching International and Comparative Copyright Law. This course is offered in the spring semester and the summer session, Pierce Law's Intellectual Property Summer Institute (IPSI). She will once again be teaching at Pierce Law in the upcoming spring semester.

Although I participated in last summer's IPSI program, I did not have the pleasure of getting to know Dr. von Lewinski or taking her course. I did have, however, the opportunity to speak with her personally while interviewing her for this article. She immediately impressed me as a very intelligent and pleasant woman. Indeed, Dr. von Lewinski's resume is most enviable and impressive.

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PIERCE LAW
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Professor William Hennessey first broached with Dr. von Lewinski the question of whether she would be interested in teaching at Pierce Law, when he met her at a meeting of ATRIP (International Association for the Advancement of Teaching and Research in IP) in Salamanca, Spain in 1991.

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Created in 1985 through the generosity of Kenneth J. and Pauline Germeshausen, the Germeshausen Center is the umbrella organization for Franklin Pierce Law Center's specialization and policy studies in the legal protection, management, and transfer of intellectual property, especially relating to the commercialization of technology.

The Germeshausen Center Newsletter is published three times a year for alumni/ae, students and friends of Franklin Pierce Law Center.

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Subsequently, when Professor Karl Jorda was at the Max-Planck Institute as a Visiting Scholar in 1990 and 1991, he got to know Dr. von Lewinski and, since Pierce Law at that time intended to expand and fill a gap in its curriculum with a full complement of international and comparative patent, trademark and copyright law courses, he persuaded her to come to Pierce Law. She accepted enthusiastically and the Max Planck Directors, Professor Dr. Beier and Professor Dr. Schricker, gladly gave her permission.

Her first course in March 1993 was an instant success and former Dean, Bob Viles, recognized this in a certificate, where he saluted her "for…conscientiously preparing a three-week course in International & Comparative Copyright Law, enthusiastically inspiring her students to understand, to engage and to learn, and willingly sharing expertise and insight with students and faculty colleagues alike" and in a letter to her, where he acknowledged that "(h)aving… people from Europe like yourself participate in our academic program adds dimensions to transnational treatment of legal subjects that our own faculty cannot as effectively offer." By now she has taught this course over twenty times at Pierce Law, where the hope is she will continue to come back year after year.

In addition to teaching at Pierce law, Dr. von Lewinski also participated—after helping to organize it—in the Seventh Biennual Intellectual Property System Major Problems Conference, held on November 14, 1998, which explored the topic "Digital Technology and Copyright: A Threat or a Promise?"

She also participated in a joint-degree program between Pierce Law and the Gulf Institute for International Law in Dubai, UAE in December 1997/January 1998, teaching a 2-credit hour copyright course and will be a guest lecturer in Professor Jorda's International Intellectual Property Law course at Tuft University's Fletcher School of Law & Diplomacy in their Spring 2002 term.

Since 1985, Dr. von Lewinski has been associated with The Max-Planck Institute for Foreign and International Patent, Copyright and Competition Law in Munich, Germany, the world's epicenter for IP research and the mecca for foreign IP scholars. She was first an associate member and since 1995 has served as head of the Dept. on International Law and Developing Countries.

Not content with being a department head at Max Planck and an adjunct professor at Pierce Law, Dr. von Lewinski also serves or has served as adjunct, lecturer or visiting professor at the Johannes-Gutenberg University in Mainz, the Polytechnical University in Zurich, McGill University in Montreal, Columbia University in New York, Université Laval in Quebec, the University of Paris (Sceaux/Sorbonne), the University of Montpellier, the University of Toulouse, and finally the Université de Nantes. In the Spring of 2002, she will be teaching at Melbourne University in Australia for the first time.

There is much, much more, when it comes to her professional activities. She has served or is now serving as a consultant and expert for the European Community (EC) Commission in Brussels regarding EC Directives on rental and lending rights, for the government of Madagascar and for several Central and Eastern European countries with respect to drafting new copyright legislation. Furthermore, she has represented the European Communities, Germany and/or Max Planck at many Diplomatic Conferences and meetings of WIPO Committees of Experts in Geneva.

Dr. von Lewinski, simply put, is likely to show up any time any place on the globe, as for instance, in Madagascar, Goa in India, Irkutsk in Siberia, Armenia, Georgia, Uzbekistan, Jamaica and anywhere in Europe, Japan, the United States and Canada. Often she can be seen in high-powered fora on cutting-edge issues, as for instance, last year at a Roundtable Discussion at Columbia University on laws prohibiting

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NOTABLE HAPPENINGS…

JUDGE ARTHUR J. GAJARSA DISTINGUISHED JURIST-IN-RESIDENCE AT FRANKLIN PIERCE LAW CENTER

The Honorable Arthur J. Gajarsa served as distinguished jurist-in-residence, October 9 and 10, at Pierce Law. Judge Gajarsa, who sits on the U.S. Court of Appeals for the Federal Circuit, Washington, DC, was appointed to the bench by President Clinton in 1997. "We are honored to host a jurist of Judge Gajarsa's stature at Franklin Pierce Law Center. He enjoys a national reputation. It is also appropriate because he presides over many cases that involve intellectual property issues, an area in which we excel," said Dean John Hutson. Judge Gajarsa addressed several classes during his visit, as well as meet with students in small groups. Former special counsel and assistant to the commissioner of Indian Affairs, Bureau of Indian Affairs, U.S. Department of Interior, Judge Gajarsa was a partner and officer with Joseph, Gajarsa, McDermott and Reiner prior to his appointment. He is the recipient of numerous awards including the Order of Commendatore, Republic of Italy in 1995, the Alumni Fellow Award from Rensselaer Polytechnic Institute in 1996, and the Paul R. Dean Award from Georgetown University Law Center in 1998. ■

THE GREENBERG TRADEMARK INSTITUTE

Pierce Law is in the process of creating The Greenberg Trademark Institute and Greenberg Chair of International Trademark Law named for Allen Greenberg, who has enjoyed an impressive career spanning three decades practicing intellectual property law. During that time the shift toward a global economy also intensified the focus and growing international importance of trademark law. Allen was deeply rooted in its practical implications during his 20-year tenure at the Coca-Cola Company. His charge to protect the famous Coca-Cola trademarks took him to more than 100 countries. His membership in several national and international legal and professional associations, including the ABA, the USCIB, the ICC, INTA and ASIPI, reflects his vast experience and commitment to the field of IP law.

The mission of The Greenberg Trademark Institute is to provide a forum for professionals from across the globe to meet and examine critical topics in managing intellectual property assets. The Institute will address the pragmatic needs of trademark owners, as well as the political, legal and social implications of intellectual property law. All Institute activities will adhere to the highest standards for academic integrity.

The Greenberg Trademark Institute and The Greenberg Chair of International Trademark Law at Franklin Pierce Law Center will be the epicenter of trademark education and research worldwide. National and international trademark owners and practitioners, lawyers, government officials, instructors and marketers will regularly meet at Pierce Law, one of the United States' top intellectual property law schools to empirically examine the global issues confronting today's IP professionals. ■

PIERCE LAW SIPLA'S FIRST ANNUAL SYMPOSIUM

On November 10, the Student Intellectual Property Law Association (SIPLA) held its First Annual Symposium—The Future of Intellectual Property. Speakers included Clark Lackert and Larry Tronco, King & Spalding; Dr. David Marsh, Arnold & Porter; David Crosby, Mintz Levin Cohn Ferris Globsky and Popeo; as well as the Immediate Past President of AIPLA, M. Andrea Ryan and Professor John Orcutt of Pierce Law. The topics covered were: AIPLA's Three Year Strategic Plan and the Role of the Law Student, New Technologies and IP, Recent Developments in Biotechnology and Patent Law, Start-Up Companies: An Effective Means for Monetizing Innovations, and Global Trademark Harmonization in the 21st Century: TRIPS and Beyond. Pierce Law's SIPLA was formed to promote IP issues and maintain a high standard of professionalism in the Pierce Law community. The organization brings Pierce Law students, faculty, alumni and members of the legal community together from the full spectrum of IP concerns, including: Patents, Copyrights, and Trademarks, and other areas of law affecting IP. The Pierce Law SIPLA Officers are to be commended for putting on such a fine program. (Jenae Avalone, A.J. Bahou, Brad Chin, Keshev Dhakad, Tom Holsten, Robin Irving, Bill Lambert, James Larke, Chuck Meier, Janet Moreira, Leigh Willey, and Anne Yates.) ■

IP FACULTY ACTIVITIES

Professor **Tom Field**'s book, *Introduction to Intellectual Property*, has been accepted for publication by Carolina Academic Press. Joe Feretti (LLM '01) of Crowe & Dunlevy will be teaching from it at the University of Oklahoma in the spring and Field expects him to join as co-author by the time the final manuscript is submitted next summer.

The IP Mall is proud to host the Web version of **Jon Garon**'s book, *Independent Film Making*, which remains a work in progress (the site and the book). The text has not been finished and final editing work needs to be done. The IP Mall is helping Professor Garon make the book available in this form to help the reader who cannot wait another year to have these suggestions provided in print. New chapters will be posted regularly as the writing and editing process continues. *(www.ipmall. fplc.edu/ hosted_resources/ifm/index.html)*

Dean **John Hutson** and Professor **Bill Hennessey** travelled to Beijing the week after Thanksgiving, to meet with officials of Tsinghua University School of Law, in order to work out details directly following the ABA's approval of the 2002 Pierce Law-Tsinghua summer study abroad program. It was Dean Hutson's first visit to China, and though short, was most memorable. In addition to visiting the Tsinghua campus, where they met with Professors Bing Wang (Pierce LLM '01) and Jianyuan Cui (Pierce Visiting Scholar '00), they met with alums Baidi Gu (Pierce MIP '89) and Jian Ma (Pierce LLM '00), and took in such popular tourist sights as the Forbidden City, Manchu Summer Palace, and the Great Wall. Professor **Hennessey** also participated in a two-day seminar November 26-27 on "Current Issues in Intellectual Property Protection," sponsored by Procter & Gamble at Tsinghua University, and also gave a talk on patent protection for business method related patents in the U.S.

On December 12, Professor **Susan Richey** and **Bill Murphy** were presenters for a New Hampshire Bar Association CLE program on "E-Commerce and Internet Issues," held in Manchester.

Professor **Karl Jorda** participated with three presentations in a two-day program on Intellectual Property Strategies, held by Intertech Seminars in Manchester, NH on October 1 and 2. The topics of his talks were: "Techniques for Harvesting Inventions," "The Patent/Trade Secret Interface," and "Technology Licensing Dos and Don'ts." Then on October 8-9, he attended a World Jurist Association Seminar held at the Hungarian Supreme Court in Budapest and gave a talk on "Enforcement of Patent Rights in the United States: Damages and Injunctions." And on November 8, he was the lead-off speaker at an International Symposium on Intellectual Property Education, organized by Tokai University and held in Tokyo. The topic of his address was "Intellectual Property Education at Franklin Pierce Law Center: History, Current Status and Programs."

With his talk in Tokyo, Professor **Jorda** had reached a milestone: 250 major career talks since 1971, and 175 since 1989, when he came to Pierce Law. Out of the 250 presentations, 40 were in Spanish and 5 in German. They were delivered under the auspices of WIPO, PIPA, UN, LES, ACPC, USIA, AIPPI, IABA, PLI, and many other international, national, state and local associations and organizations. Venues for these talks were forty countries, including such remote countries as Madagascar and Mongolia. Many of these talks were published in such Intellectual Property and Licensing/Technology Transfer journals and publications as *JPTOS*, PLI Handbooks, *AIPLA Quarterly Journal*, *LES Nouvelles*, *BNA's World Licensing Report*, *PIPA Proceedings*, *CIPA Journal* (British), *PTIC Journal* (Canadian), *GRUR Journal* (German), *Derechos Intelectuales* (Buenos Aires), *Actas de Derecho Industrial y Derecho de Autor* (Spain), and others.

With speaking engagements already lined up in Amman, Jordan in January; Mumbai (Bombay), India in February; Bogota, Colombia in March; Osaka, Japan in April and New Delhi, India in May, Professor Jorda will go on "fighting the good fight."

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small carriers before the days of high technology. He was in a private patent law practice from 1949 to 1967 at which time he was hired as the patent attorney for the Massachusetts Institute of Technology (MIT) where he served from 1967 to 1980. He was hired as a Lecturer in Patent Law at Pierce Law in 1977. In 1980 he was appointed Director of the PTC Research Foundation, and Editor of *IDEA: The Journal of Law and Technology* and he was elevated to the rank of full Professor, teaching Patent Practice and Procedure I and II, Selected Topics in Intellectual Property I and II and Patent Moot Court.

Of himself he wrote the following for the Pierce Law Admissions Bulletin shortly before he retired:

> "From 1967 and 1980 I was a patent attorney for the Massachusetts Institute of Technology covering a wide spectrum of technical disciplines, although my technical training is in electrical engineering. Since 1977 I have taught patent practice courses at FPLC, and, since coming here full-time in 1980, I have served as Director of the PTC Research Foundation. The patent practice training places great emphasis on claim drafting and application drafting, responding to communications from the Patent and Trademark Office (PTO), and a study of the law as it applies to all aspects of the patent practice in the PTO and more generally. This is a two- year offering, and in the second year the law and practice are studied to greater depth. Our graduates have found patent employment with some of this country's largest industrial companies and with law firms specializing in the intellectual-industrial property practice."

The story of Bob's contribution to the founding and building of IP at Pierce Law is best described by the founder Robert Rines and the founder of the Graduate Programs, Homer Blair.

According to Rines, Bob pioneered the novel curriculum for patent law courses at law schools. He helped found and grow the PTC Research Foundation and conference programs as its Director. During his most active years he provided "laboratory" patent practice opportunities for Law Center students in assisting in handling several hundred patents and licensing transactions for Faculty at Dartmouth, University of Massachusetts, MIT, Carnegie Mellon and US Army Research Labs and others.

Bob was best known for his expertise in patent prosecution, but Bob also had considerable experience with patent litigation. Rines stated that when he founded Pierce Law he relied heavily on Bob for assistance in a considerable number of patent trials in which Rines was involved all over the world. "Bob was an excellent observer and listener in court and often provided insights for winning trials."

Bob was involved with the Board of the Academy of Applied Science, which helped found Pierce Law. He was particularly involved in national programs by the Academy for encouraging young inventors and scientists. Bob was Rines' "strong right arm" in helping develop the Chinese and Korean patent alumni of the Law Center and accompanied Rines to the Far East in this connection. He assisted Rines and Professor Bryan Harris in negotiating cooperative programs with the British Institute of Patentees and Oxford University. Bob was closely involved with Rines in launching of the Germeshausen Center and in working with Mr. Germeshausen and Rines on numerous patent interests.

Rines stated that Bob felt that the most important talent of patent lawyer was in knowing how to analyze the real inventive concept and translating that into competent claim language. Bob always stressed that his tutelage at Rines & Rines under David Rines, for whom the David Rines Professorship was named, was responsible for giving him insights into claim drafting to help teach students to rise above the average patent lawyer.

Homer Blair talks of the effectiveness of the patent law team approach established at Pierce Law. Blair's background was corporate. Bob was the expert in university patenting and licensing. Professor Tom Field had been a patent examiner. Rines had been in private practice. All four professors had different backgrounds and insights. Bob taught the basics of patent law for decades to thousands of patent lawyers in the making. For most of those years he "taught it his way" according to Blair. Bob was very involved and interested in teaching. He had a solid background when he became a teacher, which Blair felt made him a more effective teacher. Bob was involved in IP management before it became a discipline. According to Blair, Bob "would dig around at MIT" for IP opportunities.

For many years, Bob "was the patent program" at Pierce Law. Attorney Kevin Carroll, who worked with Bob as a student and is now an adjunct patent professor, tells "although Bob stopped teaching Patent Practice years ago, he has left his mark on this course. We continue to use drafting assignments that originated with Bob Shaw, and I often mention his name when instructing students on the 'art' of patent claim drafting."

Bob was devoted to his students. I was a student in one of the final Patent Practice classes he taught while earning my LL.M degree. I would visit Bob in his office and often find him in lengthy conversations with foreign students who were vexed by technical jargon along with the English language. Bob was an unending source of mentorship. He gave unconditionally of himself. Professor Bill Hennessey tells that Bob was the biggest help in starting the MIP program. He would always organize a trip to climb Mount Cardigan in the early fall. Bob had a quiet appreciation of the beauty of nature and the unique splendor of New Hampshire. He spent innumerable hours counseling (and comforting) foreign students who struggled through his courses. Hennessey tells that Bob and his wife Ruby were a home away from home for many students. "Few realized how much kindness and inspiration he spread to others. Bob knew all of his students as individuals, our likes and dislikes, our strengths and weaknesses. He knew how to instill confidence in his students through his example, his constant good cheer, and his willingness to hear and consider another side of the story."

Bob was a student of science and had deep interests in the area of neurology.

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Attorney Rochelle Blaustein, who assisted Bob as a student and later as an Assistant Professor recalls many long conversations on matters of science.

There were many sides to Bob. According to Emeritus Professor Richard Hesse, "Bob was one of the few 'technology' people on the faculty who showed any real interest in other aspects of law and legal education. He was deeply concerned about government and civil liberties. While we seldom agreed on the more controversial issues of our times, Bob was always thoughtful and open to discussion. Those who knew him knew how committed Bob was to liberty as he saw it." Hennessey also agreed: "Bob had a rock-solid commitment to justice and liberty."

Still others remember Bob in different ways. Bob was a family man. He and Ruby adopted two children. He loved children. Professor Sarah Redfield relates, "One of the things that endeared Bob to me was his interest in children. After I had Alex, Bob starting stocking his office with a few children's books so he'd have something to read should I stop by with my son. Later, he and Alex became friends in their own right, with Bob giving Alex some much more serious science books. And when Althea came along, he continued his friendship with her and with me." Bonnie Morrison (Library Serials Assistant) worked as Bob's assistant for fifteen years. She remembers him as good hearted. Bob "went above and beyond the call of duty for the students", spending lots of time with them. He was a mentor to many, giving advice to many alums in the field. Bonnie said that many alums still call and ask about him.

Bob was an unassuming person. To look at him in his flannel shirt, you would not think of this man as a patent lawyer. Bob loved good Italian food, running and travel. He frequented many local restaurants. Attorney Carroll tells that he thinks of Bob whenever he has breakfast at the Foothills Restaurant in Warner, where Bob was a regular and favorite customer. Bob loved to be on the move. Paula Jewell, Library Services Supervisor states, "I liked him about as much as I have ever liked anyone here. He was a good man. I would have lunch in the café with him and we would talk about Illinois where we are both from. He was funny, and so very bright." Bob lived near Jewell in East Concord and he was a jogger until his illness caused him to stop. "He would be out in any weather. In the rain I would see him out in his yellow rain slicker. When he was unable to jog he walked, until he could not even do this."

Rines tells that Bob was a "great square dancer." He and Bob belonged to the Unitarian Church and never missed a square dance or couples club hayride. Rines jokes that "Bob always kept us laughing - even in the bitterest cold." Bob liked to have a good time. Most remember him for his sense of humor. Rines remembers him as "extremely congenial and fun loving." Professor Hesse states, "in contrast to Bob's aggressive attitude in defense of his ideology, Bob had a wonderful sense of humor and a capacity to laugh at himself. He was an enjoyable colleague." Blair remembers Bob as "a serious guy with good sense of humor; pleasant, quiet and conscientious and frank in faculty meetings."

Bob will be missed by thousands of students whose life he touched and by those who worked with him. Rines sadly said, "Bob will be sorely missed as friend and colleague and certainly as a mentor to many of the earlier FPLC patent law students." Hennessey concludes, "Most important to me, he was a fiercely loyal friend and colleague."

Pierce Law honors Bob Shaw in many ways. On September 30, 1995 the Bob Shaw reading area was dedicated in the new Intellectual Property Library. Over one hundred students, faculty, inventors and staff contributed to the space. Dean John Hutson announced on January 10, 2001 that a scholarship in the name and memory of Bob Shaw is being established. Bob loved to read in the Library. Bob loved students. That the students will benefit in his memory surely would make him smile, his big warm smile.

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circumvention of technological protection measures attached to copyrighted works.

On top of her vast professional experience, Dr. Silke von Lewinski has given about 140 major talks and (co)authored four books and about 120 articles and contributions to books on topics relating to international and European copyright law and problems of new technologies. She is so prolific that she can hardly keep track of her talks and publications. In her words: "I can never keep up with my publications and talks—it's nearly uncontrollable."

In 1991, Dr. von Lewinski received the Heinrich-Hubmann Award for the best treatise of the year in copyright. This award is given by the German literary collection society, "VG Wort." It was named after Hubmann, a leading expert in German copyright law, who had died shortly before, and it was inaugurated with her doctoral dissertation.

Dr. von Lewinski is a member of ALAI (Assocication Litteraire et Artistique Internationale), ATRIP, and the International Editorial Board of "Les Cahiers de la Propriété Intellectuelle" in Canada and others.

Finally, her impressive resume boasts fluency in German, English, French and Italian and reading knowledge of Dutch, Swedish, Norwegian, Danish, and Spanish. What a polyglot on top of everything else!

When I asked Dr. von Lewinski if she always knew she wanted to practice IP law, she explained to me "that general law studies were less stimulating, and that it was my interest in art and literature that finally brought me to the study of IP, particularly copyright laws and their harmonization."

Last summer she had a great surprise in store for all of us. She turned out to be an accomplished concert violinist, when she performed—a first for her in the U.S.—in a concert presented by The Concord Music

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Club in the Annichiarico Theatre. Sonatas and other pieces by Mozart, van Beethoven, Brahms, Wieniawski and Sarasate were in her repertoire. It was a most memorable performance, which was televised later on PSA. It called for an encore, and she promised one next summer.

Dr. von Lewinski began playing the violin at the age of five, won several awards at German youth competitions, and became a member of the Federal German Youth Orchestra. She has performed as a member of various orchestras and chamber music ensembles, made radio and television appearances, and has been on tour through–out Germany. She also performed in Moscow and Leningrad with the Mainz Cathedral Orchestra, and at the official ceremony celebrating the first anniversary of the German unification, in Berlin.

Anent her academic credentials in law, Dr. von Lewinski studied at the Johannes-Gutenberg University in Mainz, Germany 1979-81; the University of Geneva, 1981-82; and the Ludwig-Maximilian University in Munich, 1982-84. She passed both her Final Examination and her Bar Examination with honors in Munich in 1985 and 1988, respectively. She then obtained her doctorate from the Free University in Berlin in 1989, with a thesis on public lending rights.

This enviable record of teaching, lecturing, writing, and consulting easily makes Dr. Silke von Lewinski Europe's foremost expert, in Professor Jorda's estimation, on copyrights and especially on what she calls her main areas of interest: international copyright treaties, harmonization of European copyrights and adaptation of copyrights to new technologies. Keep up the good work!

Samantha Whitney (JD/MIP '03) is from Germany. She has a BA in Financial and Managerial Economics from the University of New Hampshire and plans to practice IP law in the Southwestern U.S. upon graduation.

STEM CELLS: IN THE LINE OF FIRE

BY MICHAEL DIRKSEN (JD '04)

EXCITING ADVANCES are being made in the field of stem cell technology. These advances have brought stem cell technology to the forefront of debates around the world. Scientists, politicians, and ethicists are debating the function and utility of stem cells, as well as the associated moral and ethical ramifications. Humankind can benefit greatly from stem cell research because of the ability to diagnose, treat and prevent a wide-range of diseases and afflictions.

A stem cell is defined as a cell that has the ability to divide an indefinite number of times, yielding specialized cells with each division. The study of human embryonic development gives scientists a view of how these cells arise. There are three distinct levels used to outline embryonic cell development, labeled as, totipotent, pluripotent, and multipotent stem cells. A totipotent cell is a single cell that has the ability to generate an entire organism. Natl. Inst. of Health, *Stem Cells: A Primer* <http://www.nih.gov/news/stemcell/primer.htm> (May 2000). A pluripotent stem cell arises after further embryonic development from the totipotent stage. They do, however, maintain the ability to differentiate into any number of different cells. A single pluripotent stem cell cannot generate an entire organism through division itself, nor can a pluripotent stem cell generate specific cells like blood cells. *Id*. Multipotent stem cells have the ability to divide for an indefinite period of time and have the capacity to create specific types of cells, such as red blood cells. *Id*. A multipotent stem cell completely develops in the embryo, approximately four days after fertilization.

Since stem cells are the first cells created during embryonic development, researchers want to better understand the fundamental principles of development so they can better foresee developmental issues as they arise. Stem cells can be collected from a variety of sources such as adult humans, umbilical cords, aborted fetuses, and surplus embryos donated from fertility clinics. A more controversial form of collecting stem cells arises when a scientist chooses to culture their own embryos *in vitro* for the sole purpose of harvesting stem cells. *Id*. Today, scientists are concentrating on collecting pluripotent stem cells and studying their ability to further develop into multipotent cells.

There are difficulties involved with each collection method listed above, either on a scientific level or on a moral and ethical level. A conundrum arises in which the easiest way to collect stem cells creates the most ethical issues and the most difficult way to collect stem cells does not promote ethical dilemmas. For example, researchers when attempting to collect stem cells from adult humans exert an overwhelming effort. Yet, collection from adult humans remains the source least debated on an ethical level. The increased effort is necessary since researchers have to sift through thousands and thousands of other cells just to collect a few stem cells. Given that adult stem cells have not been isolated from each tissue in the human body, collection methodologies are discovered on the run, which is not very time efficient. Natl. Inst. of Health, <http://www.nih.gov/news/stemcell/ primer.htm>. Rather than performing research on the benefit of stem cells, time is spent trying to find stem cells from adult human samples.

Research has not been completed on whether adult stem cells have the same ability to divide as do newly proliferated stem cells. Research is underway to determine if adult stem cells are considerably more "tired" than a cell collected from a four-day-old embryo. Based on the shear number of times a stem cell replicates during an organism's lifetime, a logical argument exists that points to the adult stem cell being less prolific. Scientists want the most viable cell lines possible, and if stem cells collected from adult humans are not as viable, then researchers are likely to use cells amassed from fetuses and embryos.

Many moral and ethical issues arise from the usage of stem cells derived from fetuses and embryos. Researchers can legally obtain aborted fetuses from women who undergo an abortion and wish to donate the fetus. Many "Right to Life" activist groups demonstrate

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heavily against this process. Fertility clinics provide another source of embryos for research. The clinics produce multiple embryos for their clients, *in vitro*, and use the most promising embryos for implantation into the uterus. Researchers obtain the surplus embryos that would have otherwise been discarded after a woman becomes impregnated. This has proven to be a plentiful resource for stem cell collection. *In vitro* fertilization is a technology that has enabled scientists to culture multiple embryos. This technology is beneficial for couples having difficulty conceiving a child, but it also provides a researcher with freedom to explore embryonic development. *In vitro* fertilization allows a researcher to closely follow embryonic development and offers them a chance to collect stem cells at precise moments in the development cycle.

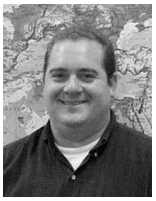
The U.S. government has announced that it will not fund any projects that deal with embryonic cultivation in the laboratory for research purposes. President Bush has granted federal funds to the 60 existing embryonic stem cell lines but has disallowed any further development of embryonic stem cell lines saying that this form of research should not "encourage further destruction of human embryos that have at least the potential for life." U.S. Government, *Embryonic Stem Cell Research* <http://www.whitehouse.gov/news/releases/2001> (accessed Sept. 9, 2001). President Bush went on to state that this research should continue to promote the sanctity of life "without undermining it." *Id.* The government will continue to fund research programs that use stem cells from aborted fetuses and embryos that were created for reproductive purposes. Embryos created for the sole purpose of scientific research will not be given any federal funding. *Id.* The National Institutes of Health (NIH), the governmental body that controls stem cell research, agrees with the President on his policy for federal funding. The NIH believes that federal funding of stem cell research will open doors for many other researchers who were previously unable to study embryonic stem cells.

The Wisconsin Alumni Research Foundation (WARF) is an influential private player in the stem cell industry today. They own a significant portion of the intellectual property related to stem cell technology, including claims to most of the 60 existing embryonic stem cell lines and related technologies. The powerful patents that WARF possesses are U.S. Patent Nos. 5,843,780 ('780) and 6,200,806 ('806). Speculation is rampant in the industry that the '806 patent was written so broadly that anyone who attempts to derive a stem cell line, will infringe on the '806 patent. One may surmise that since WARF controls a significant amount of intellectual property in this area, researchers may give their federal dollars to WARF in return for access to WARF's protected stem cell lines. Robert C. Scheinfeld and Parker H. Bagley, *New York Law Journal* (Sept. 27, 2001) (available at <http://www.law.com/cgi-bin/gx.cgi/AppLogic+FTContentServer?pagename=law/View&c=... 9/27/01>). The methods of stem cell isolation and collection developed by WARF scientists are considered the industry standard. *Id.* Other research centers who hold patents on stem cell related technologies are Johns Hopkins University, the National Jewish Center for Immunology and Respiratory Medicine, and Vanderbilt University, to name a few.

Research shows that stem cells may have the potential to cure and prevent devastating human diseases such as heart disease, liver disease, diabetes, cancer, and diseases of the nervous system. It is also likely that stem cells may be able to prevent, diagnose, and treat diseases such as Parkinson's and Alzheimer's. Am. Ass'n for the Advancement of Sci., *Report on Stem Cell Research* <http://www.aas.org/spp/dspp/ sfrl/projects/stem/main/htm> (Sept. 2000). Today, a person who suffers a spinal cord injury that leads to paralysis requires a miracle to recover. Present medical science is unable to cure many types of spinal cord injuries, in part, because spinal cord cells do not regenerate after complete organism development like skin cells do. In the future, a doctor will have the ability to implant a spinal cord stem cell into your spine to create new cells that will have the ability to reverse your paralysis. This manner of therapy is already being used to treat types of leukemia with increasing levels of success. Diseased or incompetent blood stem cells are being removed and being replaced by newer, more viable stem cells that have the ability to proliferate and heighten the immune system of the patient. This is just the beginning in applying stem cell technology to the goal of benefiting humankind.

What happens when a magical cure is discovered and a research group begins to create embryos for the sole purpose of harvesting stem cells? One could speculate that an industry may be created, the likes of which we cannot comprehend at this point in time. If scientists were allowed to create a supply of stem cells, it would be possible for pharmaceutical companies to test drug based treatments on human cells in a manner never before thought possible. John F. Lauerman, *Stem Cell Debate Focuses on Ethics* <http://www.masslive.com/newsindex/springfield/index.ssf?/news/pstories/ae915ste. html> (Sept. 15, 2001). That would reduce the amount of human trials that would be necessary for pharmaceutical development projects. Linda Bevington, *Stem Cells and the Human Embryo* <http: www.bioethix.org/resources/overviews/stemcell.html> (1999).

It is inevitable that the broad issue of stem cell technology, involving both the development and the collection of cells, will continue to be a hotly debated topic over the months and years to come. The government will likely have a say in what processes are legitimate, thereby focusing research down a certain path. The U.S. Congress is preparing to hear testimony from both sides of this debate before they begin to enact legislation. When and if the government enacts legislation, it could severely aid or hinder the research process currently underway. Government inter–vention may hinder the results gained from experimentation if research is limited to specific areas, but it could also focus efforts on important problems that need to be solved. Humankind is just beginning to understand the immense benefits that stem cell technology research can offer. To limit research possibilities in this burgeoning area would be a shame because a vast array of knowledge presently lies within the reach of science.



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EXTENSIBLE MARKUP LANGUAGE (XML): AN ATTEMPT TO PUT ORDER TO AN EMERGING MARKETPLACE

BY MATTHEW A. FORKNER (JD '04)

WHERE THE WEB SERVICES MARKET IS HEADED

IMAGINE USING your personal computer, digital cell phone, digital television, or wireless handheld computer to request from a network, a consolidated statement of your financial accounts from several unrelated banks, credit card companies and brokerages. In seconds, one table, containing all of this information and formatted to display properly on whichever device you are using at the time is available to you. Using voice commands, or just a few keystrokes you can transfer money instantly from your brokerage account to your checking account. You could even use the internet to transfer cash from your brokerage account to your checking account automatically when it drops below a certain amount. Brent Schlender, *Damn the Torpedoes? Full Speed Ahead*, Business 2.0, (July 2000) (Available at http://www.business2.com/articles/mag/0,1640,8042,FF.html)

For such advanced capabilities to be available to you, the many companies involved in the above illustration must freely share data and information. Today such sharing is not possible because the databases involved are made up of many different languages, formats and protocols making the combination or collaboration of the data nearly impossible. Each bank and brokerage firm guards their database from others, prizing it as a valuable asset, and competitive advantage. This thinking quickly gives way to the realization that companies can derive more benefit from sharing these databases to create more efficiency and give more value to their customers. The result is that many companies are working feverishly to make this collaborative experience a reality. It is dependent on the adaptation of a standard programming language that allows data to be shared freely and force compatibility with one another. *Id.* This type of collaboration constitutes a new marketplace that is quickly evolving.

Society is becoming more dependent on web services. A web service is nothing more than a database-driven Website where consumers come together to use an application (database-driven Website) in a collaborative manner. Michael Vizard, *Developers must focus on linking Web services to boost Net collaboration,* InfoWorld (March 16, 2001 01:01 PM PST) (Available at http://www.infoworld.com/articles/op/xml/01/03/19/010319opvizard.xml). Some of the more well known Web services directed at consumers are Yahoo!, eBay, and Amazon.com. The problem is that there is no feasible way to link these Web services to one another allowing full interaction among applications. Each Web service is "an island of information and content unto itself, which defeats that

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LAWYERING IN IAM PROGRAMS

BY VINCE MACRI (LLM '02)

This article relates to intellectual asset management (IAM), a relatively new field of opportunity for lawyers (particularly intellectual property (IP) lawyers), and, broadly, their preparation for and participation in IAM programs.

PLEASE CONSIDER the following hypothetical scenario; your biggest client (or, for corporate counsel, the company CEO) phones your office at 7 p.m. (just as your hand reaches for the doorknob), to ask if you can attend a meeting tomorrow morning at 8 a.m. sharp. Sure you can and the subject, says your caller, is "to participate as a member, of the company's new IAM team." Stunned, you call home to say you'll be late, very late. Then you:

(a) peruse the IAM statute;

(b) read your state and federal circuit IAM cases;

(c) phone your uncle, a U.S.D.C. Judge;

(d) e-mail your law review roommate;

(e) research everything (you should have remembered) from Professor Nermien Al-Ali's course on IAM.

The correct answer is not (a) or (b) they don't exist; not (c) your uncle, the Judge, retired and as an economy measure had his phone disconnected; not (d) your law school roommate who must now charge, even you, $575/hour to research it. It's (e) that's correct, so you dust off and open up the compilation of readings from Professor Al-Ali's IAM course. You find, as Professor Al-Ali has taught, that the scope of IAM includes everything from "knowledge in employees' heads and…databases… [to] intellectual property rights, and innovation processes." Your class notes tell you that IAM is a total business management approach directed to driving business growth and development and includes measuring/monitoring, managing and leveraging intangible assets of all kinds, found throughout the enterprise, for the purpose of maximum value addition and/or extraction. For an even more detailed methodology, you are led to Professor Al-Ali's novel CIAM system, which relates to the comprehensive manage–ment of the process and development of IA's linked to strategic goals. Finally, your notes produce references to ICM, the "C" meaning capital. You are informed that many companies today face down global competition with intellectual capital, i.e. brains not brawn, valuing information over infrastructure. Accordingly, the next, advanced, replacing tool for IAM will be ICM. After several intense hours of reading you phone home again to say you'll be very, very late.

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fundamental collaborative promise of the Internet." *Id*. The initiatives underway will create an infrastructure that will enable Web services to link together and interact. *Id.* This infrastructure will be based on a new programming language, Extensible Markup Language (XML).

A CASE FOR XML

The Web service "island" that we now know will become an "application that exposes its features programmatically over the Internet or Intranet using standard Internet protocols like XML. The key to making web services work across the Web is to finally agree to one data format. Many leading corporations are advocating that the format be XML. "At the lowest level, systems need to speak the same language. In particular, communicating applications need to have a set of rules for how they are going to represent different data types and how they are going to represent commands." Andrew Layman and John Montgomery, *Web Services, and the .NET Framework*, TopXML.com, (Available at http://www.topxml.com/xml/articles/dotnetintro/). Business to business transactions benefit by enabling companies to transact industry by industry in a much more efficient and cost effective manner. XML will simplify building exchanges because it will make each company's inventory and pricing data universally comprehensible. Chris King, CEO of Utility.com, a company that helps electric utilities share excess capacity, concedes "the biggest single barrier to our ability to offer competitively priced electricity is the cost, complexity, and reliability of data exchange. With XML, we're there." *Damn the Torpedoes? Full Speed Ahead,* (http://www.business2.com/articles/mag/0,1640,8042,FF.html).

BENEFITS OF XML

XML is fast becoming the web standard for data exchange and the preferred language of electronic business. Wylie Wong, *Microsoft to divulge more XML plans*, CNET News.com, (July 27, 2001, 5:35 a.m. PT) (Available at http://news.cnet.com/news/0-1003-200-6694161.html). XML enables software companies, corporate programmers, and web developers to create Web services that can call or summon specific information or transaction capabilities from one or more sites and synthesize them into a customized Web page. *Damn the Torpedoes? Full Speed Ahead,* (http://www.business2.com/articles/mag/0,1640,8042,FF.html). Adopting XML as the standard allows websites to display their data in a way that is understood universally. This enables information, pulled from unrelated sites anywhere in the world, to "spontaneously synthesize" into interactive pages, or collaborative webservices, customized to a specific person based on their preferences, irregardless of the device being used. XML is a standardized way of storing data and text, spreadsheet numbers, pricing lists and employee records to name a few. It gives each passage of text a little extra information to make it readily identifiable by almost any machine. *Id.*

SWORN ENEMIES MUST COME TOGETHER TO FACILITATE EXCHANGE IN THE NEW MARKETPLACE

In order for these changes to take place and create a standard in the new marketplace, XML must be accepted and adopted by all. This is difficult as you look at a landscape of technology companies that have historically been archrivals and intensely competitive. Many are realizing the benefit to all, as well as the necessity of standards and uniformity across the industry. Microsoft, IBM, Novell, Oracle, Sun Microsystems, Hewlett Packard, Apple and more than 400 other companies have formed what is known as the World Wide Web Consortium. It has been formed to be a central body that will agree on one version of XML for all parties. *Id.* Additionally, industries are coming together to establish standards based on XML. For example the travel industry is establishing common structure for travel, destination, restrictions and pricing models based on mutually agreed XML standards. *Microsoft to divulge more XML plans* (http://news.cnet.com/news/0-1003-200-6694161.html). Directory vendors are also coming together to provide a perfect illustration of how difficult it is for companies to share data and why sharing is beneficial. The level of communication possible through the use of XML is nearly impossible today because each company uses different formats to describe their proprietary information. Exchanging data among directories is key to the future of e-commerce. A standard way to query a database, such as by user name, address or preferences, is key so these data can be used in web-based applications to identify and control a users access to applications or create custom applications for the user. XML is that standard. Novell is a company that has announced their intension to connect Novell directory services to other directories through XML. John Fontana, *Novell and Microsoft agree on XML-based standard*, CNN.COM (July 14, 1999 Web posted at: 12:29 p.m. EDT (1629 GMT)) (Available at http://www.cnn.com/TECH/computing/9907/14/xml-ent.idg/).

NEW CHALLENGES IN PROTECTING INTELLECTUAL PROPERTY

All this talk of sharing makes advocates of intellectual property rights nervous. This emerging model will require the open sharing of data and would rely on the fact that "these structured data can be imported and instantly manipulated by software programs and devices that had nothing to do with creating them in the first place." *Damn the Torpedoes? Full Speed Ahead,* (http://www.business2.com/articles/mag/0,1640,8042,FF.html). Perhaps this is opening the door for a lot of uncontrollable pirating of intellectual property. Steps are being taken to control access to and monitor use of the data, but nothing is bullet proof, and we are far from having the answers we need. Databases that have historically been guarded by individual entities will now be required to be open to others for sharing, yes with restrictions and controls, but they are still more vulnerable. This is analogous to the U.S. becoming vulnerable by being an open and free society; open borders and great freedoms are maintained on the belief that such a way of life is of greatest benefit to the most people. Similarly, companies participating in this new marketplace make their intellectual property more vulnerable to abuse. In both cases, the society or the company agree to some increased risk expecting the benefits to outweigh the detriments.

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As a lawyer you are trained to know how to protect your client's (company's) interests. As a matter of course many business decisions are made incorporating your advice, which in turn is based on your command of statutes, and precedent, combined with your experience and creativity. You are mindful that company liability is a big part of your responsibility and will affect your participation on the IAM team. You are also mindful that over-aggressively gathering competitive intelligence might, possibly, cross over the lines of the Economic Espionage Act, 18 USC 1331 et seq., and/or the Stolen Property Act, 18 USC 2314. So, you prepare for tomorrow's 8 a.m. meeting keeping the following overview in mind and with the understanding that even while on a management team, for liability issues you are *'primus inter pares.'*

IAM bubbled up as a discrete management field in or about the early 1990's. By 2000 it is said to have emerged "as a practice". In fact, patent lawyer Russell J. Barron, Esq. spearheads what is believed to be the nation's first, law firm (Foley and Lardner, Milwaukee, Wis.) owned IAM consulting business, the INTX Group (part of a larger consortium). IAM consulting is almost always done by a multi-disciplinary team, only some of whom are lawyers. As usual, there are likely to be turf issues. IAM engaged lawyers will likely rub elbows with company IP counsel deployed to particular business units. According to Professor Karl Jorda: "…an IP department may have sections aligned with operating units, where each attorney/agent handles the entire spectrum of work from processing invention disclosures…to… litigation and licensing of cases on his/her docket."

There is no one-way street to executing an IAM program. The genesis of IAM and its various processes and modes of application are a fascinating study in business/legal response and managerial diversity. As for why a law firm would establish a separate, freestanding group for IAM consulting, it is relevant to answer that question for yourself, at some point. I will return to it shortly. A clue, what kinds of activities

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HAGUE CONVENTION CONCERNS ALL INTELLECTUAL PROPERTY

BY JOE REARDEN (JD '03)

INTELLECTUAL PROPERTY right holders and their counsel should be following the developments surrounding the awkward-sounding but critically important Hague Convention on Jurisdiction and Recognition and Enforcement of Judgments in Civil and Commercial Matters. In June of 2001, negotiators representing 50 countries met in Brussels to prepare a revised draft of the proposed convention. Initiated almost ten years ago by the U.S. as an attempt to bolster the international enforcement of U.S. judgments, the convention has recently become highly contentious. This is mainly due to the massive waves of international communication and transactions, often over the Internet and involving intellectual property, and its potential to create a tsunami of litigation.

CURRENT CONTROVERSY

Recent media reports have fueled the controversy with nightmare scenarios of a company's keystone inventions being stolen and patented in a foreign country. The terrifying scenario spirals downward with a domestic patent holder having to defend against a foreign court's infringement judgment, which is being enforced against them at home. Non-IP scenarios are equally frightening, such as being sued for libel in a foreign country for posting something to the Internet that would be protected as free speech at home. In the U.S. it sounds like a terrible extension of the recent French court case concerning the Nazi memorabilia auctions that Yahoo! ended up pulling from its websites worldwide. The resultant fear is that the Hague Convention would encourage this type of behavior and effectively snuff out free speech on the Internet.

HISTORICAL BASIS

Given this bonfire of grievances against the Hague Convention, one might ask what those negotiators are even considering. Historically, the proposed convention has engendered two purposes: first, to assure that judgments issued by a court in one country are enforced by other countries; and second, to establish jurisdictional rules governing transnational legal disputes. Considering the difficult jurisdiction and enforcement issues that are present in every international communication or transaction, it is no wonder that divergent views have become explosive under the pressure of recent negotiations.

The current situation is exacerbated by the fact that there are major differences between members' laws on many of these issues. For instance, U.S. personal jurisdiction is based on a somewhat murky due process determination of minimum contacts, fair play, and substantial justice. This contrasts with other conference members' more objective considerations, like the personal domicile of contracting parties under the Brussels Convention. Secondly, the much less controversial topics of recognition and enforcement are quite similar to U.S. standards, including requirements for the force of *res judicata*, postponement of enforcement if subject to review, and methods of verification. While the approach to recognition of foreign judgments is similar under the Brussels Convention, in practice the enforcement of U.S. judgments remains contentious, principally due to U.S. courts granting outlandish punitive and exemplary damages by European standards. The proposed convention, however, attempts to assuage this situation by providing a clause that allows the refusal of recognition or enforcement if manifestly incompatible with domestic public policy.

U.S. RESPONSE TO THE CURRENT DRAFT

Overall, U.S. response to the 1999 draft of the Convention has not been favorable. While some U.S. businesses are generally in favor of expanding potential enforceability of judgments against *some* foreign defendants, they are concerned about reducing the basis for claiming jurisdiction over *all* foreign defendants. Consumer protection groups also have voiced concern over the potential to weaken consumer rights, particularly in light of the prevalence of "click-through" contracts on the Internet. In addition, U.S. free speech

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does every law firm's professional liability insurance cover?

The terms "intellectual assets" are, for the purposes of this discussion, an oxymoron. Property principally derived from the intellect and appearing as an asset on a company balance sheet, (which accounts for the book value of such property) does not exist. Intellectual assets are intangibles, accounted for, illusively, in "good will." They do not appear on balance sheets and, in turn, intangible assets are not accounted for in a company's book value. At the same time the market value (outstanding shares multiplied by share price) of virtually every company whose name you recognize (e.g. GE, Royal Dutch Shell, Microsoft, Exxon, Coca-Cola, Intel, Merck), dwarfs their book values and does so at ratios of 20 (or more) to 1. This is mainly due to the capital market's perception of the value of each company's intangible assets. While intangible assets can include facts such as customer base, customer loyalty and distribution networks, the driving force behind intangibles is intellectual assets including all those with which you are familiar; patents, trademarks, copyrights, trade secrets, etc., i.e. the intellectual property ("IP") group which is clearly, legally protectable. As an IP lawyer you're a natural recruit to an IAM team. A good part of IAM is IP and you've been trained to prepare, prosecute, maintain and protect IP, no problem, slam dunk. You're half right.

IAM may not be a problem for you, but it is not a slam dunk. The new tool in your toolbox is an entrepreneurial lever, not exactly a tool you've been trained to use. The heart of IAM is to leverage the company's intangibles so as to add to and extract value for growth. That having been done, percep–tions in the capital markets result in increased price/share and *ipso facto* increased total market value for your client company. You will be using that lever while interfacing with business executives and managers who know that the ratio of intangible to tangible assets (according to the Brookings Institute) changed from 20:80% in 1978 to 73:27% in 1997. Driving market value by leveraging assets is core business management domain. You e-mail home adding another "very" to your late return prognostication.

Leveraging is legal exploitation. While lawyers are comfortable with the legal part of legal exploitation there is an understandable professional sensitivity to exploitation. At the swashbuckling end of the spectrum, "do it, let 'em sue us" is not exactly the style of most corporate or outside counsel. However, on a practical, balanced level, protecting your client's interests often involves proactive, value-added legal advice. While there is a natural and reasonable tension between lawyering and leveraging/managing, it's done every day. Just keep in mind that, at the end of the IAM team's day, you are the lawyer and the responsibility to protect your client endures.

As IAM matures to the status of ordinary and customary business procedure, query whether officers' and directors' fiduciary duties will extend to informed business judgments regarding intangible assets, only part of which are intellectual property. This is clearly a rhetorical question. It's only a matter of time until IAM plays a role in securities and fiduciary duty litigation. The issues will likely be knotty. For example, if much of intellectual property is defined as "wasting assets", how nimble must be officers and directors in managing those assets? Is there not a correlative management urgency affixed to dealing with "wasting assets?" If IAM includes virtually all company knowledge and information, how much of that can possibly be the responsibility of officers and directors? And should and can officers and directors know the value of company intellectual assets? Is your answer different upon recall that most companies run asset ratios of about 75:25 (intangible to tangible assets)? Will there not emerge a natural "disclosure" tension between the benefits of corporate transparency and good investor relations on one side and reasonable need to keep some intangible assets (or parts thereof) undisclosed in order to protect competitive processes and opportunities? And referring to queries noted above, are lawyer members of an IAM team to be deemed officers or lawyers from the standpoint of duty of care, privileged confidentiality and professional liability insurance coverage?

The best one word piece of advice to lawyers engaged in IAM processes, is nimbleness. Our training in critical thinking, analysis, issue identification, synthesizing legal prin–ciples to solve problems and communicating is perfect for contributing to IAM. Knowledge of the law distinguishes us from business executives, managers, scientists, engineers and creative artists. The working lawyer is invariably cross-trained by his clients' businesses and can spot good opportunities. Russell J. Barron, Esq. gives a "nimble" example: "Hardly any conventionally trained business person would know that the claims of a U.S. patent can be expanded in the two years following issuance (broadening reissue). But a creative IA trained lawyer would… create systems and attitudes…to take advantage of the (broadening) opportunities."

IA is a comprehensive term. According to Professor Bill Hennessey, who contributes the following version of IA classification: "Intellectual property comes into existence through legal protection. As a firm begins to mine information about how it identifies, creates and exploits a portfolio of intellectual property through licensing, mergers and acquisitions, strategic alliances, finance, and even donations, it begins to turn its intellectual properties into intellectual assets. But it is only when a firm creates a thorough and comprehensive process for identifying and measuring intellectual assets throughout its business operations, customer relations, human resources, and knowledge management that it can be said to be managing its intellectual capital."

IAM is distinct from, but, at times, umbrellas over intellectual property management. A noteworthy example of the latter is IBM's "patent factory" exploitation of its own unused and other patents, licensed-out at over $1 billion per year, up from $30 million in 1990. If we consider that this is only one company, exploiting one kind of IAM, the size of the umbrella is not small. Another example is Texas Instruments, which is said to earn more from technology licensing then from manufacturing. Other IAM players are, GE with its Six Sigma process that is directed to developing and delivering near-perfect products and services, and 3M's system of granting managers 15% of their time to pursue any project they wish, which is coupled with a corporate mission

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to seed innovation so that 25% of 3M's sales come from products introduced in the most recent five years. The Swedish company, Skandia weighs in with the Skandia Navigator whose basic principle is that human capital (focus) drives future performance. There are many other IAM programs on-going in many industries.

IAM is as variable as the companies, industries and markets it addresses. The liberation of tacit and express knowledge, intellectual processes, know-how, business processes, and means by which to adapt to market changes may all be considered elements of IAM. Seeding innovations, identifying and leveraging assets and competitive intelligence are all part of IAM. As a function of variability, it is highly unlikely that IAM will be restricted to a fixed number of formats. There are lots of IAM models to follow and approaches to metrics with which to wrestle, but, inevitably, the special attributes and commercial culture and market environment of your client will draw a blueprint for an IAM effort that is likely to produce good results. Nothing is set in stone, you'll need to be lawyerly and nimble and you'll need to tap into the dynamic IAM literature, much of which is literally current. For example, the tools for intellectual asset valuations are undergoing current development by forensic intellectual asset valuation specialists and licensing professionals. The Licensing Executives Society (LES) will publish preliminary standards for IA valuation this fall, 2001.

The birds are chirping. You turn off the office lights and head home secure in the knowledge that you know enough to know that you don't know enough. Then again you're a lawyer and you know how to deal with uncertainty. You've got about three hours before the 8 a.m. meeting. ■

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ELECTRONIC EVIDENCE

BY SIGRID TEJO (JD '03)

UNTIL RECENTLY, the rules of discovery relating to written communication were well established. With advancements in computer-technology and the advent of computer-based communication, discoverable evidence is no longer restricted to tangible mediums, but can also be found in electronic forms. The *Nielson/Net Ratings Report* (2000) estimated the number of email users in the U.S. alone is around 122.6 million and by the year 2005, North Americans will send over 18 billion email messages a day. *INFOWORLD* (September 25, 2000). While rapid advancements in computer technology continue to change the nature of communication, courts have recently moved towards admitting electronic evidence at trial. The question now posed continues to be: How do lawyers properly admit and authenticate electronic evidence at trial? This article discusses the trend to include electronic evidence in the discovery process, what is discoverable and how lawyers are currently able to use electronic evidence at trial.

Traditionally, documentary evidence was tangible, i.e. a printed piece of paper. Documentary evidence however, is no longer just limited to the information found on that piece of paper. Information is now available in electronic form, opening a new venue in the law and requiring changes in the old rules to address this new development. William Decoste, *Sender Beware: The Discoverability and Admissibility of E-Mail*, 2 Vand. J. Ent. & Prac. 79, 80 (2000). Despite being an intangible form, the "general proposition found in most case law is that electronic [evidence] is governed by the same rules and framework as paper material." *Id*.

In 1970, the Advisory Committee realizing the inadequacy in the existing discovery rules, saw a need to revise the Rule 34(a) Federal Rules of Civil Procedure to address under what circumstances litigants could discover electronic information. Christine Sgarlatta Chung and David J. Byer, *The Electronic Paper Trail: Evidentiary Obstacles to Discovery and Admission of Electronic Evidence*, 4 B. U. J. Sci. & Tech. L. 5, 26 (1998). The amendment to Rule 34(a) of the Federal Rules of Civil Procedure changed the term "document" to include "data compilations from which information can be obtained, translated, if necessary, by the respondent through detection devices into a reasonably useable form." *Id*. Not until recently, however, has computer data become a prevalent subject of discovery, mainly because of the advances made in the ability to process the electronic data. Kimberly D. Richard, *Electronic Evidence: To Produce or Not to Produce, That is the Question*, 21 Whitter L. Rev. 463, 471 (1999)(citing, Susan J. Silvernail, *Electronic Evidence: Discovery in the Computer Age*, 58 Ala. L. 176, 177 (May 1997).

PRODUCTION OF ELECTRONIC EVIDENCE—WHAT IS DISCOVERABLE?

Historically, the idea that electronic evidence could be discoverable was hard to imagine. This was true for several reasons: (1) electronic evidence is not tangible, therefore no one would want it; (2) the electronic information could be hidden on the computer or encoded; and (3) the electronic information could be easily discarded. Richard, 21 Whitter L. Rev. at 470 (citing Joey Frazier, *Electronic Sleuthing: John Jessen's Evidence Discovery Enterprises*, Law PC 1 (Aug. 15, 1993)). However, despite these beliefs, courts began ordering parties to produce electronic evidence during the discovery process.

Daewoo Electrs. Corp. v. U.S, 650 F. Supp. 1003, 1005 (Ct. Int'l Trade 1986) was the first case to address the discoverability of electronic evidence. The *Daewoo* court acknowledged the "novelty" of electronic technology and "affirmed the general policy that information which is stored, used or transmitted in new forms should be available through discovery with the same openness as traditional forms." *Id*. at 1006. The court also found that the "use of new forms of technology should assist in avoiding compliance with discovery

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orders simply because of "excessive technical distinctions…[i]t would be a dangerous development in the law if new techniques for easing the use of information become a hindrance to discovery or disclosure in litigation." *Id.*

Despite the efforts of both the Advisory Committee and the courts, two general misconceptions still exist regarding the discoverability and admissibility of electronic evidence. Much of the legal confusion is based on the idea that: (1) once electronic evidence is deleted it is no longer retrievable and (2) that since the information is stored in electronic form, privacy rights, much like personal mail, protect it. Decoste, 2 Vand. J. Ent. & Prac. at 81. In reviewing the case law, however, courts have broadly applied the discovery rules in relation to electronic material making these misconceptions no longer valid. *Id.*

A letter can be touched, passed around, photocopied and enlarged. Being tangible, a letter possesses a reality in the mind of the drafter. Email and data, on the other hand, are intangible. Email cannot be touched or held (unless printed). Electronic evidence does not possess the qualities that make it "real." Thus, "unlike its traditional written counterpart, people often use email [electronic sources] to say things they would never memorialize in writing…this is often due to the users misperception that email [electronic evidence] is impermanent." Richard, 21 Whitter L. Rev. at 466 (citing Gregory M. Bergman, et.al. *The Electronic Smoking Gone*, 6, 7 (unpublished manuscript, on file with Whitter Law Review). Therefore, "with changing discovery rules, rapid accumulation of electronic data, growing and uncontrolled use of electronic mail (email), and increased use of sophisticated backup and archive systems, the problems associated with the admissibility of electronic evidences is likely to intensify." *Id.* at 464-65.

USE OF ELECTRONIC EVIDENCE AT TRIAL

Even though a photograph may be worth a thousand words, without the proper foundation or authentication, the court cannot accept that photograph as evidence. By laying the proper foundation and providing authentication, such as an unaltered negative or the person who took the photograph, litigants have been able to overcome the problems with early forms of electronic evidence. However, with the continued advances and growing sophistication of the Internet, lawyers must continue to overcome hurdles to get electronic evidence admitted at trial.

HEARSAY AND THE BUSINESS RECORDS EXCEPTION

Rule 801(c) of the Federal Rules of Evidence defines hearsay as "a statement, other than one made by the declarant while testifying at the trial or hearing, offered in evidence to prove the truth of the matter asserted." Even "electronic records that contain the assertion of a person, and are offered to prove the truth of the matter asserted, contain hearsay." *Searching and Seizing Computers and Obtaining Electronic Evidence in Criminal Investigations*, Computer Crime and IP Section, Criminal Division, 189 (March 2001). When evidence needed at trial contains hearsay, it becomes necessary to fit that electronic record within a hearsay exception, Rules 803-807 of the Federal Rules of Evidence. The most commonly used exception for electronic evidence is the business records exception.

U.S. v. Russo, 480 F.2d 1228 (6th Cir. 1973) is one of several cases that began to lay the foundation for the admissibility of electronic mail under the business records exception. With the popularity of computers and the ease of using computers to maintain business records and documents, the courts had to decide whether "there was any qualitative difference, for evidentiary purposes, between computerized business records and data recorded on paper." Decoste, 2 Vand. J. Ent. & Prac. at 85. If electronic evidence is to be offered at trial for the truth of what it asserts, proponents of such evidence must overcome a hearsay challenge; failure to do so will likely result in the loss of valuable evidence. Anthony J. Dreyer, *When the Postman Beeps Twice: The Admissibility of Electronic Mail Under the Business Records Exception of the Federal Rules of Evidence*, 64 Fordham L. Rev. 2285, 2310 (1996).

In *Strauss v. Microsoft Corp.*, 1995 WL 326492 at 4; 69 Fair Empl. Prac. Cas. (BNA) 1576, the plaintiff sought to admit email messages that were both embarrassing and potentially damaging to Microsoft. Through discovery, the plaintiff obtained electronic mail in which her supervisor sent messages to other staff members containing sexual remarks and inappropriate sexual references regarding the female employees. *Id.*

Microsoft objected to the admission of these damaging email messages on the basis that "the messages were irrelevant, unfairly prejudicial to Microsoft and would confuse and mislead the jury." Dreyer, 64 Fordham L. Rev. at 2299 (citing *Strauss v. Microsoft*, 1995 WL 326492 at 4). The court, however, admitted the email messages and "in so doing, the court treated electronic material as indistinguishable from other forms of evidence, at least with respect to basic admissibility questions of relevance and prejudice." Decoste, 2 Vand. J. Ent. & Prac. at 86. The decision by the *Strauss* court "held that email is both discoverable and admissible in civil cases, indicating that email will generally be analyzed under the same rules and framework as paper and other non-electronic communications." *Id.*

In *U.S. v. Ferber*, 955 F. Supp. 90 (D. Ma. 1997), the government was confronted with the hearsay objection when it sought to admit incriminating email messages under *Rule 803(6) of the Federal Rules of Evidence,* laying a foundation that the printout of the message was authentic and accurate. The government proffered to the court that it was the "defendant company's practice to send email messages to co-workers immediately following an important telephone conversation with a client and therefore would qualify under the business records exception." Decoste, 2 Vand. J. Ent. & Prac. at 92. The court, however, concluded that this foundation was insufficient to warrant admission of the email as a business record exception because "while it may have been routine business practice to send such messages, the court held that it was not enough and the plaintiff had to also prove that the company required the maintenance of such records." *Id.*

By admitting hearsay evidence, a court allows a litigant to avoid three fundamental devices which maximize the accuracy of testimony before the jury: "cross-examination of witnesses who testify at trial, the oath

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administered to witnesses before they testify, and the opportunity for the jury to observe the demeanor of the testifying witnesses." Dreyer, 64 Fordham L. Rev. at 2302 (citing *California v. Green*, 399 U.S. 149, 154 (1970)). Cross-examination gives the jury the opportunity to see any "insincerity and perhaps even faulty perception and memory on the part of the witness." Dreyer, 64 Fordham L. Rev. at 2303 (citing, Edmund M. Morgan, *Hearsay Dangers and the Application of the Hearsay Concept*, 62 Harv. L. Rev. 177, 88 (1948)). Even when the court admits hearsay testimony, cross-examination of the hearsay declarant still does not remove any of the hearsay dangers. Id. (citing *California v. Green* at 154 (1970)). Sometimes cross-examination is the only challenge available to the court or jury to otherwise accepting a statement as fact, and the elimination of cross-examination can easily lead the jury to an unjust conclusion. Additionally, the fear of perjury charges generally ensures the accuracy and honesty of testimony, however, out-of-court statements are not under oath, and declarants are not subject to perjury charges. *Id.* (citing *Bridges v. Wilson*, 326 U.S. 135, 153 (1945)). By eliminating the threat of prosecution for perjury, there is no longer a safeguard to ensure the truth of the testimony. Finally, out-of-court statements prevent the jury from being able to assess the character and integrity of the declarant to make a determination as to the accuracy of the testimony. *Id.* (citing *Mattox v. U.S.*, 156 U.S. 237, 242-43 (1895)).

As mentioned earlier, one of the more common hearsay exceptions used to admit electronic communication is the business record exception. The business records exception is codified as Rule 803(6) of the Federal Rules of Evidence and embodies the principals of necessity and trustworthiness. *Id.* at 2304 (citing Christopher B. Mueller and Laird C. Kirkpatrick, 4 Federal Evidence, s 444, at 486 (1994)). "The necessity for the exception arises from the fact that most business records are often composite[s] of information gleaned from many sources." *Id.* Since it would require many witnesses to verify the information from the various sources, the business records exception eliminated the "need for courts to take testimony from multiple witnesses, each of whom would add only narrow points on the matters asserted within the hearsay document." *Id.* The second element, trust–worthiness, stems from the practical need in business to depend upon the accuracy of the business records to compete effectively and from the internal checks and balances system in the business community which "assure[s] a kind of expertise and reduce risks of mistake" in business records. *Id.* Although it would seem that most business records are maintained for self-interest reasons, Rule 803(6) of the Federal Rules of Evidences allows the court to use discretion to exclude business records if their origins indicate lack of trustworthiness.

A piece of evidence must have five elements to qualify as a business records exception. *Id.* at 2305 (citing Mueller and Kirkpatrick at § 445). The first element under Rule 803(6) of the Federal Rules of Evidence requires that electronic evidence be the type of information or record made during the course of a "regularly conducted business activity." The Federal Rules Committee wanted to ensure the trustworthiness of business records and therefore, records made outside the course of regular business activities lacked sufficient guarantees of trustworthiness. *Id.* (citing H.R. Rep. No. 650, 93d Cong. 2d Sess. (1974), reprinted in 1974 U.S.C.C.A.N. 7051, 7087). "If…the supplier of the information does not act in the regular course, an essential link is broken." *Id.* at 2306 (citing the Advisory Committee's notes on Rule 803(6) Federal Rules of Evidence).

Secondly, Rule 803(6) of the Federal Rules of Evidence states that the business must make the record as part of its "regular practice." "The rationale for this requirement is similar to the "regular course" requirement; a record that is made on a regular basis is likely to be more accurate, and hence, more trust–worthy." *Id.* (citing 2 McCormick, *On Evidence*, 286 (4th ed. 1992)). The Federal Rules of Evidence does not define "regular practice," however the courts have developed its own interpretation. See *U.S. v. Grossman*, 614 F.2d 295, 297 (1st. Cir. 1980) (finding that a catalog, printed only once a year, satisfied the "regular course" requirement under Rule 803(6)); *Rosenberg v. Collins*, 624 F.2d 659, 665 (5th Cir. 1980) (computer data compilations…should be treated as any other record of regularly conducted activity when admitting computer-based records of cash transfers).

The third requirement under Rule 803(6) is that the record must have been made by a "person with knowledge" of the information—"[t]hat is, the information recorded must have originated with someone who had first-hand knowledge thereof." *Id.* at 2306 (citing, *White Ind. v. Cessna Aircraft Co.*, 611 F. Supp. 1049, 1059 (W.D. Mo. 1985)). Many courts have broadly construed this requirement. For example, the person who physically makes the record need not have first-hand knowledge of the information contained within the record. *See U.S. v. Moore*, 923 F. 2d 910 (1st. Cir. 1991). In *U.S. v. Zapata*, 871 F.2d 616, 625-26 (7th Cir. 1989), the Court found that the personal knowledge requirement was satisfied when testimony of an individual, who was not acting under a business duty to prepare the record, but merely verified that it was prepared by someone who was acting under a business duty was used to enter business records. Dreyer, 64 Fordham L. Rev. at 2307.

Records must also be made "at or near the time" the information was obtained. This requirement has been subject to somewhat liberal interpretation. "No bright-line rule governs what is considered timely, and courts are free to exercise discretion in evaluating the facts of each case." *Id.* (citing *Missouri P. R.R. v. Austin*, 292 F.2d 415, 423 (5th Cir. 1961)). The Seventh Circuit, in *Wheeler v. Sims*, 951 F.2d 796, 804 (7th Cir. 1992), upheld the admissibility of a record made eleven days after the events that it reported had transpired. However, the First Circuit, in *Hiram Ricker & Sons v. Students Int'l Mediation Soc.*, 501 F.2d 550, 554 (1st Cir. 1974) excluded records made one week after the information contained therein was first reported. In the case of computer records, time may not be a factor, as computer systems make records contemporaneous with an event. Likewise, printouts created days after a transaction could still be contemporaneous if the data was electron–

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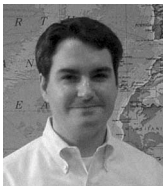
advocates warn that achieving the convention will lead to Internet-based speech restrictions according to the stringent standards of member states like China, Morocco, or Turkey. However, some intellectual property rights holders see another side to the convention, namely the potential for effective worldwide injunction relief against foreign pirates.

RECENT IP NEGOTIATIONS

On June 13, 2002, a working group met as part of the larger Brussels diplomatic conference to discuss Article 12—Exclusive Jurisdiction and its implications for IP. On one side, some participants lobbied to maintain the current provision under subsection 4, which maintains exclusive jurisdiction for validity and infringement actions related to deposited or registered rights (typically, patents and trademarks) in the place of registration, but excepting copyright and neighboring rights even if registered. On the other side were mainly European advocates for the inclusion of non-exclusive jurisdiction for infringement actions. Also debated was whether Article 12 subsection 6 could provide an exception to the registered rights exclusion, if arising as an incidental question. But such con–sideration was rebutted as derogation from the territorial nature of registered rights.

CONCLUSION

The Hague Convention is a crucible in which traditional associations are broken down. For example, media and entertainment interests are pitted against free speech advocates. While big software companies are quietly in support of the convention, big ISPs are vocally against it. Getting past the horror stories of foreign courts and the clash of foreign cultures, it may be helpful to consider the opportunity presented by the underlying structural change and to use the proposed convention to harmonize transnational jurisdiction and clarify judgment enforcement procedures.



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ically stored at a prior time. Special attention will be necessary for the courts to fashion a definition of "timely" in computer report cases.

The fifth element, "the record must be accompanied by foundation testimony," was addressed by the Ninth Circuit in *U. S. v. Catabran*, 836 F.2d 453, 457-58 (9th Cir. 1988). In *Catabran*, the court admitted under the business records exception computer-generated ledgers, inventory, and payroll records. Dreyer, 64 Fordham L. Rev. at 2309 (citing *Catabran* at 456-58). In its analysis, the court noted that "it is immaterial that the business record is maintained in a computer rather than in company books," provided that the proponent of the evidence lays a proper foundation. *Id.* (citing *Catabran* at 457). Additional special attention will be necessary for the courts to fashion standards applicable to the reliability of computer self-generated reports.

Foundation issues and hearsay requirements all attempt to deal with the spectrum of human error in reporting second hand information. If the introduction of computer record keepers removes the element of error, new rules may need to be promulgated so that the assumption of human frailty is not transferred to computer technology.

AUTHENTICATION AND THE RELIABILITY OF COMPUTER INFORMATION

The issue of authentication of electronic information was first addressed fifteen years ago. In 1986, Rudolph J. Peritz, posed the question: should courts continue to infer trustworthiness simply from the traditional elements of the "shop-book rule," or should proof of computer system reliability constitute part of a more comprehensive foundation for qualifying business records? Rudolph J. Peritz, *Computer data and Reliability: A Call for Authentication of Business Records under the Federal Rules of Evidence*, 80 Nw. U. L. Rev. 956, 957 (1986). In the year 2001, the question remains unanswered, however, the trend seems to be that "computer output should be qualified like any other business record, despite the fact that computer systems store, retrieve and manipulate information in ways significantly different from earlier or manual systems." *Id.* at 958.

Federal Rules of Evidence 901(a) states: "admissibility is satisfied by evidence sufficient to support a finding that the matter in question is what its proponent claims." In other words, when a lawyer introduces a computer record at trial, the lawyer must establish exactly what that record is and what it will help to prove. *Searching and Seizing Computers and Obtaining Electronic Evidence in Criminal Investigations*, Computer Crime and IP Section, Criminal Division, 184 (March 2001). In addition, Rule 803(6) of the Federal Rules of Evidence requires that testimony of the custodian of the information or some other qualified witness before admitting the document into evidence. In *U.S. v Moore,* 923 F.2d 910, 915 (1st. Cir. 1991), the Court reasoned that the person testifying did not have to be a computer expert. The person testifying merely needed to be someone who had knowledge of the relevant facts because "such testimony establishes the regular practices and procedures surrounding the creation of the records, the very elements that are necessary for a finding of trust–worthiness." Dreyer, 64 Fordham L. Rev. at 2307 (citing *U.S. v. Wables*, 731 F.2d 440, 449 (7th Cir. 1984)).

Courts are not likely to refuse to admit electronic evidence at trial simply because the defendant alleges, with nothing more, that the evidence had been tampered with and is therefore untrustworthy. See *U.S. v. Bonallo*, 858 F.2d 1427, 1436 (9th Cir. 1988). However, the mere allegation of tampering or that the evidence is untrustworthy goes to the weight of the evidence, and not to admissibility. *Id.*

In the case of *U.S. v. Briscoe*, 896 F.2d 1476, 1494 (7th Cir. 1990), the court held that challenges to the reliability of computer generated records can be overcome by the government, if sufficient facts to warrant a finding that the records are trustworthy are presented, and the opposing party is afforded an opportunity to inquire into the accuracy thereof. *Searching and Seizing Computers and Obtaining Electronic Evidence in Criminal Investigations*, Computer Crime and IP Section, Criminal Division, 187 (March 2001). This finding is consistent with Rule 901(b)(9) which allows the admission of "evidence describing a process or system used to produce a result and showing that the process or system produces an accurate result." Likewise, in *Moore*, electronic

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evidence was admitted where "the ordinary business circumstances described suggest trustworthiness, at least where absolutely nothing in the record in any way implies the lack thereof." *Id.* (citing *U.S. v. Moore*, 923 F. 2d 910, 915 (1st Cir. 1991)).

Notably, once a minimum standard of trustworthiness is established, questions as to the computer records' accuracy are almost always eliminated. *U.S. v. Cabran*, 836 F.2d 453, 458 (9th Cir. 1988). Issues of reliability "resulting from…the operation of the computer" and not the system itself affect only the weight of the evidence, not its admissibility. *Searching and Seizing Computers and Obtaining Electronic Evidence in Criminal Investigations*, Computer Crime and IP Section, Criminal Division, 187 (March 2001). Thus, the admissibility of electronic evidence is not affected by the fact that a computer generated the evidence, but is raised only when the foundation of the computer program's reliability is not properly made.

CONCLUSION

The availability of electronic evidence causes "new challenges, burdens and potential new abuses to arise during the discovery process." William J. Ruane and James K. Lehman, *Running the Gaunlet: Responding to Discovery of Electronic Documents*, 2 (February 22, 2001).

The courts are in a constant position of catching up with emerging technology. Until recently they have cut and paste together a body of law designed to deal with technology they may not fully understand. Until the judiciary and the Bar act in a proactive manner to educate themselves as to the realities and misconceptions of computer communication technology, "the problems and risks associated with electronic discovery will continue to multiply as technological advances provide for ever more novel ways to "store, organize and transfer electronic information." *Id.* at 14.

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From the Editor

THE THIRTY-YEAR LASER PATENT WAR

I

TWO RIVETING books hit the bookstores recently. Both are rival accounts of who invented the laser and are hard to put down. *How the Laser Happened—Adventures of a Scientist* (Oxford University Press, 1999) by Charles H. Townes is one and *Laser: The Inventor, the Nobel Laureate, and the Thirty-Year Patent War* (Simon Schuster, 2000) by Nick Taylor is the other one, in which the inventor is Gordon Gould and the Nobel Laureate is Charles Townes. Nick Taylor tells the story of Gould's "flash-of-genius" conception of the laser in 1957 and the long battles against the "double-phalanx of big government and big industry" to obtain several basic laser patents. For decades industry scoffed at the notion that Gould was a true laser pioneer. He was considered an impostor, who as a Columbia University graduate student had stolen the laser concepts he patented from Townes, his professor. Townes, the inventor of the maser, the now forgotten forerunner of the laser, received the Nobel Prize for his invention. However, by claiming in his book that the laser is but one example of a maser, Townes implies that he won the Nobel Prize for his role in the invention of the maser and the laser. The only prize Gould ever won for his pioneering laser inventions was the Inventor-of-the-Year Award from the Intellectual Property Owners (IPO) in 1978. However, it is Gould who has been reaping millions in royalties from several hundreds of licensees and the royalty stream will continue to flow well into 2005, when the last of this commercially-important laser patents expires.

II

The licensing of the Gould laser patents to every laser manufacturer is an equally fascinating story that I never tire of recounting in my IP licensing classes and lectures, especially since I had some personal involvement. It is a case history to end all case histories. It is a timeless, priceless masterpiece of win/win licensing. It is proof positive that intractable controversies can have perfect win/win outcomes. Based on a creative licensing scheme, reluctant small laser manufacturers were lured into the fold, when the basic Gould patents were still in litigation and when the equally reluctant big manufacturers were sworn holdouts, who believed it was they who created the laser industry with thousands of subsequent patented improvement inventions. The final holdouts were the two biggest laser manufacturers, at the time, namely, Spectraphysics Corporation and Coherent Corporation. Spectraphysics was owned in the late eighties by Ciba-Geigy Corporation (now Novartis), my then employer. But even after all prosecution in the U.S. Patent Office and all appeals in courts as well as all infringement litigation had ended in Gould's favor, Coherent and Spectraphysics were still standing pat. Spectraphysics, for instance, was inexplicably relying on a legal opinion from outside counsel that the Gould patents were invalid and unenforceable, due to defenses based on non-infringement, obviousness over prior art, non-enablement, indefiniteness, laches, estoppel and inequitable conduct.

III

According to the jacket of *Laser: The Inventor, The Nobel Laureate, and the Thirty-Year Patent War* by Nick Taylor, who also authored the memoirs of former astronaut John Glenn, "*Laser* is Gould's story—a grand story of technology and law—and an eye-opening look at the patent process in America, the nexus of the worlds of business and science."

The idea of the laser—Light Amplification by Stimulated Emission of Radiation—"struck Gould with the force of revelation" in the middle of one night in November 1957. He was a perennial graduate student in physics at Columbia, struggling to finish his Ph.D. thesis on amplifying microwaves but lost interest therein after his laser conception.

Gould worked feverishly for three days filling a notebook with his calculations for harnessing the power of light waves. On the third day, he had the foresight to have his notebook

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notarized in a candy store around the corner. And based on his notarized notebook, he was able to prevail in several multi-party interferences with big corporations attacking his inventorship claim and invention or priority date. Taylor describes Gould's struggle over thirty years in a style that at times seems like a soap opera as it delves into his romantic relationships and marital problems. *Laser* also shows how frustrating it can be for an inventor not to reap the rewards of his ideas and not even being able to work on and develop his invention. A small technology firm had become interested in Gould's laser, had employed Gould and had won a Defense Department contract to develop lasers for the military. But Gould was denied a security clearance because of past communist associations and thus could only watch from the sidelines as colleagues tried to build a working laser in a fierce race with larger, better-funded research labs. As the tale develops, the reader understands how much perseverance it takes to butt heads with big government and big business, especially when the stakes are very high.

In *How the Laser Happened*, Charles Townes has a plaintive and wistful chapter entitled "The Patent Game," which starts with the skeptical but understandable observation that "(t)he credit for invention, and even the meaning of invention, is a slippery thing." He bemoans the fact in this chapter that although he had invented not only the maser but also the "optical maser," i.e. the laser, after he joined Bell Labs, the Bell Labs patent attorneys dropped the ball in not filing a patent application early enough out of "lack of enthusiasm for the laser patent" and "lack of understanding the technical potential and ramifications" of the laser and then not "adequately covering several disclosed extensions and variations" of the laser invention in the patent application, that was ultimately filed. But he also blames himself:

> I could probably have saved Bell Labs and myself a lot of later trouble if I had paid more attention to the patent draft.

Charles Townes had everything that Gould lacked, as for instance, very important academic and government appointments and esteem in the scientific community. In the dispute between the two men, few doubted Townes's word, while nearly everyone derided Gould's claims.

IV

On the licensing front, it was not until Patlex devised ingenious licensing schemes that their objectives of licensing all laser manu–facturers and users without litigation, were realized. Patlex acquired an 80% owner–ship in the Gould patent rights (with Gould retaining 20%), when it was formed to exploit and license them.

What were the ingenious license terms that Patlex offered to laser manufacturers before their biggest competitors, Spectraphysics and Coherent, were brought to their knees? Patlex inserted into their standard agreement carrying a five-percent royalty rate—which happens to be the most commonly used royalty rate in patent licensing—a step-up or ascending royalty rate, starting at 2%, going to 3-1/2% and settling at 5%. This increasing royalty rate did not depend on sales volume but rather on whether Spectraphysics or Coherent were either sued for infringement or licensed by Patlex. When one of these competitors was either licensed or sued, the rate increased to 3.5% and the final rate of 5% became effective, when both competitors were either licensed or sued. This reasonable-royalty scheme reduced significantly the competitive disadvantage vis-à-vis the two holdouts and removed all infringement risks and thereby provided what might be called peace of mind. These licenses also contained a most favored licensee (MFL) clause to assure licensees that if later licensees, in particular Spectraphysics and Coherent, received better money terms, such terms would be passed on to all earlier licensees. A license with step-up royalty and MFL terms was clearly embraceable by laser manufacturers and the Patlex licensing drive accelerated and succeeded as all laser manufacturers, except for Spectraphysics and Coherent, became licensees in short order.

And what did it take to entice these last holdouts? The breakthrough came, first with Coherent, followed closely by Spectraphysics, with the negotiation of volume breakpoints (or descending royalty rates), at which the royalty rates were to 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%. Spectraphysics' sales volume was far in excess of $25 million Most licensees paid a 5% royalty, since most licensees had U.S. sales under $15 million. Spectraphysics' effective royalty rate was only about 1.7% due to the volume-breakpoint scheme. Since Spectraphysics 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.

Interestingly, the former astronaut Frank Borman, who had become the Chairman of Patlex, came to Spectraphysics to settle the matter and when he entered the conference room, sat down, looked around with a big smile and stated that within the hour, Spectraphysics would be a licensee, nobody believed him, of course. But when he finished offering the volume-breakpoint scheme, it was a done deal. There was jubilation around the table. It was a true win/win resolution: for Patlex, the final holdout was licensed and for Spectraphysics, it was an offer they could not refuse.

The same volume-breakpoint clause was, of course, offered to all existing licensees in accordance with the MFL provision of the laser licenses.

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.

V

In a *Washington Post* article on "Who invented the laser?" with the by-line "A new book makes the case for a Columbia graduate student as the father of the revolutionary technology," Michael Riordan, physicist and science historian at Stanford University, offers this as his conclusion:

Townes has already presented a very different account of this epochal invention in his recent autobiography, *How the Laser Happened* (1999). The actual truth, I suspect, lies somewhere in the chasm between these two extremes (the rival claims). Gould certainly deserves some of the credit and rewards for

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his contributions—mainly conceiving ways to "pump" a laser's atoms up to the higher energy levels required—and for being the one who named this device the laser, too. But to me he hardly seems to be its sole inventor, as Taylor tries to portray him. While Gould was still scribbling secretly in his notebook, Schawlow and Townes were openly publishing their ideas in a leading journal. Their article stimulated almost all the researchers who soon began working on lasers and achieved the earliest working models.

And some final thoughts on the licensing case history. It 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 Spectraphysics—are holdouts and thus have an additional competitive edge by not paying any royalties. And the volume-breakpoint 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 Spectraphysics.

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*, v.15, p.171, 177, Sept. 1980) ■

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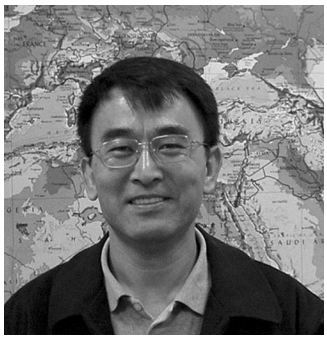
STUDENT PROFILE: HYUK JUNG KWON

BY CATHERINE A. WENDELKEN (JD/MIP'03)



FRANKLIN PIERCE Law Center (Pierce Law) welcomes Hyuk Jung Kwon (JD '04). Hyuk Jung is from Seoul, Korea and is pursuing intellectual property studies here at Pierce Law. His goal is to become a leading expert in intellectual property in this knowledge-based age. Hyuk Jung has earned a BA, a MPA and a MA in Law, Public Administration, and Literature at Hangyang University in Korea. He currently holds a patent attorney license and has served with the Korean government for more than ten years.

Shortly before becoming a full-time student at Pierce Law, Hyuk Jung was the Director of the Commissioners Office for the Korean Intellectual Property Office (KIPO). His primary role was to develop intellectual property policy making in Korea. Prior to his directorship, Hyuk Jung was Senior Deputy Director for the International Cooperation Division, leading an effort to promote international cooperation. As Deputy Director, Hyuk Jung has also worked in the Anti-Counterfeiting Division where his main function was to prevent unfair competition activities such as counterfeiting well-known trademarks and to enhance the protection of trade secrets. To strengthen intellectual property protection for KIPO, Hyuk Jung renovated legal and administrative regulations and procedures including the revision of "Regulations under the Unfair Competition Prevention and Trade Secret Protection Law."

Hyuk Jung has also worked in the Trademark Division of KIPO as an examiner of trademark applications. As an examiner, he was involved with various international policy meetings for the harmonization of trademark laws, protection for geographical indications, and protection of well-known marks.

Adding to his accomplishments, Hyuk Jung has also served as an Assistant Trial Judge for the Korean Industrial Property Tribunal deciding cases involving trademarks and industrial designs. In addition, he has lectured extensively on intellectual property laws at the National Police Investigation Training Institute under the Korean National Police University and the International Intellectual Property Training Institute.

His lecturing experiences go back to the time when he first became interested in the field of intellectual property as a law student and a government official. While studying law and working in the intellectual property field, Hyuk Jung published three articles: (1) *A Lecture on Public Administration*, (2) *A Study on the Improvement of the Trial System related to Intellectual Property Rights in Korea*, and (3) *A Study on the International Role and Policy of Small States under the New World Order*.

Hyuk Jung has also participated as a government delegate in the 34th World Intellectual Property Organization (WIPO) Assembly, the WIPO Committee on Well-Known Marks, and the WIPO Symposium on the International Protection of Geographical Indications.

When Hyuk Jung is taking a break from his work activities, he can be found fishing, touring, playing Baduk (oriental chess), and now studying in the Pierce Law library. Let us all welcome Hyuk Jung to the Pierce Law community and wish him continued success on becoming an expert in intellectual property in this knowledge-based age. ■

Catherine A. Wendelken (JD/MIP '03) is from Akron, OH. She has a BA in Chemistry from the University of Akron and plans to practice patent law upon graduation.

FIRST ANNUAL LITIGATION TECHNOLOGY COMPETITION
April 12-14, 2002
Pierce Law, Concord, NH
tcheesman@fplc.edu

BASIC PATENT COOPERATION TREATY (PCT) SEMINAR FOR PATENT ATTORNEYS, PATENT AGENTS AND PATENT ADMINISTRATORS
April 26-27, 2002
Courtyard Marriott, Concord, NH
www.fplc.edu/TreatySem/treatsem.htm

MEDIATION SKILLS FOR IP & COMMERCIAL DISPUTES
May 20-24, 2002
Pierce Law, Concord, NH
www.fplc.edu/ipb/ipsi00broch.htm#MEDIATION

INTELLECTUAL PROPERTY SUMMER INSTITUTE AT TSINGHUA UNIVERSITY SCHOOL OF LAW
June 10-July 12, 2002
Beijing, China
www.fplc.edu/ipb/CHIPSI/ChipsiIndex.htm

INTELLECTUAL PROPERTY SUMMER INSTITUTE
May 20-July 12, 2002
Pierce Law, Concord, NH
www.fplc.edu/ipb/ipsi00broch.htm

ELEVENTH ANNUAL ADVANCED LICENSING INSTITUTE
July 15-19, 2002
Pierce Law, Concord, NH
www.fplc.edu/ali/ali_app.htm

The Germeshausen Newsletter can now be accessed at: www.fplc.edu/news/pubs/Germindex.htm

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