

FOREWORD: INTELLECTUAL PROPERTY CHALLENGES IN THE NEXT CENTURY

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I. INTRODUCTION

Years have passed since the modern era was christened the “information age,” and the changes that this age has made and is making in society have, if anything, begun to accelerate. These changes occur on every hand—in education; in how, where, and with whom we work; in the range of recreation in which we can indulge; in the manner in which we communicate with one another; in the ways in which we purchase goods and services; in the ease with which we can send photographs and other representations; in the manner in which we elect and keep track of our government officials; and in numerous other ways. Many of these social changes entail profound legal changes, but the law has been slow to catch up. As the changes continue in the twenty-first century and as laypersons gain familiarity with some of these changes, such as those in genetic biotechnology and the Internet, the law will have to respond and respond far more quickly than it has to this point.¹ The principal point at which those changes will impact on law and on society is in the area of property. In our capitalist economy, property is at the base of our legal system, and with regard to the remarkable changes in society following in the train of the new technologies, it is intellectual property that will be the legal foundation of the new society.²

New technologies are generating new challenges, as older technologies did in the past. However, today’s science is having effects on law and on society that are quite different from those of yesterday’s innovations. Until recently, we could characterize the economy as being driven

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1. See Michael Schrage, *Lawyers Are Our Secret Weapon*, WASH. POST, Jan. 18, 1987, at C1.

2. See *Reinventing the Patent Office*, NAT’L L.J., Dec. 26, 1994, at C10.

by physical assets and property that could be held or at least touched. Investment in physical capital was thought to be at the heart of the process of national economic growth. This is no longer the case. Now, the fuel that powers the commercial engine is predominantly intangible,³ comprised of concepts, applied principles, and shared symbolism.⁴ “[I]nformation about objects is quickly becoming more valuable than the objects themselves.”⁵ As a result, national economic growth and well-being are now thought to turn crucially on investment in the production of intangible assets (including human capital) and on a society’s abilities to generate those assets.

As important as intellectual property issues are today, they are destined to become even more important in the near future.⁶ As Bruce Lehman, former Commissioner of the U.S. Patent and Trademark Office, notes, intellectual property law is “the law of the 21st century.”⁷ The strain that new technologies place on the law may be taken as a bellwether of the stresses that those technologies impose on both individual citizens and nations taken as a whole. Viewed at its worst, the information revolution has precipitated an unwelcome “intellectual-property land grab,”⁸ supported by an unprepared Patent Office in a land without legal borders, where high-tech copyright wars are waged; trademarks and copyrights are weapons used to silence discourse; and culture is perverted digitally.⁹ Each area of intellectual property implicated by such a bleak vision deserves careful and objective consideration.

The patent system has been profoundly changed by the emergence of explosive advances in genetics, computer communications, and the Internet.¹⁰ Typical of the legislative lag in responding to rapid scientific change, Congress has been slow to squarely address these technologies in amendments to statutory patent law. And in the absence of meaningful legislation, the Court of Appeals for the Federal Circuit (Federal Circuit) and the U.S. Patent and Trademark Office (USPTO) have done their best as critical gap-fillers.¹¹ “[H]igh tech issues are now stressing [these

3. See *Bearbull: Tangle with the Intangible – Mr Bearbull Wrestles with the MR BEARBULL*, INVESTORS CHRON., July 28, 2000, at 20.

4. In the last two decades, the portion of businesses’ worth attributable to intellectual assets has quadrupled from roughly one-sixth to more than two-thirds. *Owning the Future: Intellectual Property*, JUD./LEGIS. WATCH REP., Mar. 2000, at 1, 1.

5. Bernard Wysocki Jr., *The Big Bang: Some Industries May Find Themselves Blown Apart by the Digital Age*, WALL ST. J., Dec. 31, 1999, at R34.

6. Joff Wild, *Riding the Intellectual Property Boom*, TIMES (London), Sept. 9, 1999, at Business.

7. Marc Selinger, *15 Minutes with . . .*, WASH. TIMES (D.C.), Apr. 5, 1999, at D6 (observing that intellectual property law is what gives tangibility to otherwise intangible assets).

8. Dan Gillmor, *Politicians Ignore Vital Technology Issues*, DENVER POST, Sept. 18, 2000, at F11.

9. See *id.*

10. E.g., Nell Henderson, *More Intellectual-Property Protection Urged*, WASH. POST, Feb. 17, 1985, at E1.

11. Gary M. Hoffman & Geoffrey M. Karny, *Can Justice Keep Pace with Science?*, WASH. POST, Apr. 10, 1988, at B3.

patent institutions].”¹² Overwhelming numbers of applications have been filed in the biological and business fields, both of which were specifically included within the scope of patents by landmark court decisions.¹³ The USPTO and the Federal Circuit, with limited previous experience¹⁴ in, respectively, examining and interpreting patents in these technical fields, have a tremendous responsibility to balance the proper issuance of patents with the protection of an environment supportive of competitive innovation.¹⁵ Perhaps because some of these attempts at gap-filling have not been brought into a coherent scheme, some critics charge that the patent system “has begun to choke the very innovation it was meant to nourish.”¹⁶ With respect to some biotechnology patents, the Federal Circuit has eased some worries by narrowly circumscribing the scope of specific biotech patents.¹⁷ In response to both these problematic areas, the USPTO has responded by overhauling the way it examines business method and biotech patent applications.¹⁸

The Internet has also spawned new problems on the trademark side of the USPTO’s operation, although the conflict is removed from that agency’s operations and is not, therefore, within its control. Rather, the trademark problem arises from the Internet’s own governance of domain names. In the early days of the Web the practice for assigning domain names was “first-come, first-served,” so that literally the first person to apply for the URL www.ibm.com would receive it. But as the example illustrates, this method of allocating domain names is often in direct conflict with trademark rights when the registrant of the URL and the trademark owner are different parties. In many cases in which this conflict arose, the URL registrant was an opportunistic “cybersquatter,” whose motivation for registering the particular domain name was probably the extorting of a substantial cash settlement in exchange for relinquishing the URL to the trademark owner. Clearly, the moral claims of the trademark owner in domain-name disputes containing his or her mark are strong. What is hard to prove is the bad intent on the part of the usurper that current dispute resolution mechanisms require in order for the trademark holder to regain his or her domain name. And the waters become even murkier when two parties have arguably legitimate claims to a domain name. For example, the law faces a dilemma in choosing between two geographically remote mark owners or between a

12. *Owning the Future: Intellectual Property*, *supra* note 4, at 2.

13. *See id.* *See generally* *Diamond v. Chakrabarty*, 447 U.S. 303 (1980); *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 1093 (1999).

14. Richard B. Schmitt, *Lively Battle Erupts over Who Should Fill Federal Circuit Seat*, WALL ST. J., Oct. 21, 1993, at B12.

15. Kyla Dunn, *Must Researchers Pay So Research Pays Off?*, WASH. POST, Oct. 1, 2000, at B3.

16. James Gleick, *Patently Absurd*, N.Y. TIMES, Mar. 12, 2000, § 6 (Magazine), at 44.

17. *See* Lawrence M. Sung & Don J. Pelto, *Greater Predictability May Result in Patent Pools*, NAT’L L.J., June 22, 1998, at C2.

18. Anna Wilde Mathews, *U.S. Will Give Web Patents More Scrutiny*, WALL ST. J., Mar. 29, 2000, at B1 (explaining that additional reviews and prior art searches will be required).

trademark owner and a noncommercial, good-faith registrant who is using her web site to criticize the mark owner.¹⁹ Through the recent expansion of top level domains, trademark owners have more opportunities to register their marks, but, as a result, the number of potential conflicts has also increased.²⁰ Matters have become a little less roiled than they were in the late 1990s, but the legal status of domain names and trademarks is still unclear enough to warrant concern.

Similarly, digital technology is threatening intellectual property and personhood rights associated with creators of art and entertainment. Moral rights in works of art are under fire by media moguls who snap up digital image libraries by the gigabyte.²¹ An individual's right to publicity is also threatened when an image of a person is misappropriated. These days an image need not be taken as is; it can be digitally altered or even generated by a computer from scratch.²² The rights of deceased entertainers, digitally remastered to hawk all sorts of consumables, are particularly vulnerable without the ability of living folks to adequately police their visages.²³ These practices, and others to come, raise serious and troubling questions about individuals' privacy and publicity rights in the digital age.

The new information technology has also strained the application of copyright law.²⁴ Easy access to multitudes of protected works in cyberspace has created an environment for infringement on a mammoth scale. Literally billions of dollars are lost annually to electronic pirates.²⁵ At the same time, the contours of copyright doctrines, such as fair use and related concepts that protect and preserve the public domain, are also under stress. Under one view, recent litigation involving mp3.com, Napster, and DeCSS is the latest reminder of how vulnerable authors are to copyright violations.²⁶ To others, these are not infringements but merely the latest example of the propositions that "information wants to be

19. See Laurie J. Flynn, *Whose Name Is It Anyway? Arbitration Panels Favoring Trademark Holders in Disputes Over Web Names*, N.Y. TIMES, Sept. 4, 2000, at C3.

20. See Ariana Eunjung Cha, *Suffix Expansion Starts Address Grab; New Web Domains Provoke *deja vu**, WASH. POST, Nov. 11, 2000, at E1.

21. See generally Andrew Marshall, *Electronic Art: Beware the New Culture Vultures*, INDEPENDENT (London), Feb. 6, 2000, at Features 18.

22. See Lisa M. Ferri & Robert G. Gibbons, *Skirting the Right of Publicity in the Wake of Hoffman v. Capital Cities*, N.Y. L.J., Feb. 26, 1999, at 1.

23. See Greg Johnson, *Protecting Dead Icons Back for an Encore*, L.A. TIMES, Apr. 8, 1999, at C6; Paula Parisi, *Dead Celebrities Revived by Computer Technology*, DENVER ROCKY MOUNTAIN NEWS, June 26, 1998, at 58D; Peter Warren, *Play It Again and Again, Cyber Sam*, SCOT. SUNDAY, Mar. 21, 1999, at Business 8.

24. See Peter M. Watt-Morse & David A. Capozzi, *The Internet – The New Legal Frontier*, METROPOLITAN CORP. COUNS., Mar. 1997, at 5.

25. Daniel G. Bergstein & Michelle W. Cohen, *Superhighway Robbery on the Rise: Abuse of Copyright Increases on Internet*, N.Y. L.J., Apr. 8, 1996, at S3; John C. Yates & Michael R. Greenlee, *Intellectual Property on the Internet: Balance of Interests Between the Cybersnobs and the Bureaucrats*, J. PROPRIETARY RTS., July 1996, at 8, 8.

26. See generally Dickerson M. Downing, *What a Year! MP3.com, Napster, DeCSS*, N.Y. L.J., Jan. 16, 2000, at S6.

free” and that copyright law has grown too wooden, too stiff to keep up with advances in information technology, thereby threatening the fragile public sphere.

Some have argued that legislation that amends the Copyright Act with respect to Internet service provider liability does not adequately bolster copyright protection against electronic copiers who may not be aware of the infringing nature of their activities. To many Netizens, copying a text file from the Internet is no different than borrowing a book from a library or a friend or than flipping through a magazine at a newsstand.²⁷ Particularly troubling is one legal interpretation that the ephemeral storage of a file in RAM can serve as the basis for an infringement claim.²⁸ In principle, such a view threatens to make virtually all web browsing, and perhaps the establishing of hyperlinks, an adventure in infringement.²⁹

Finally, the intangible nature of the new forms of property creates problems when traditional legal paradigms of jurisdiction are applied. The new property is not subject to the constraints of national borders.³⁰ Therefore, the thrust of many international treaties on these matters is to establish some common intellectual property rights in every nation on the globe. The United States is, naturally, a major moving force in this effort in that its citizens have tens of billions of dollars to protect from international copyright infringement.³¹ A major challenge in this effort is showing developing nations that protecting these intellectual property rights is in their best interests.³² Many of those developing nations are angry at the developed nations for seeking to charge their citizens relatively high prices for the use of intellectual property that they view as either a public good³³ or something that they should be able to purchase at a greatly reduced price.³⁴ The biggest challenge is enforcement against information pirates in countries with relatively lax intellectual property protections.³⁵ Without effective enforcement, legal protections may not be worth the paper they are written on.

27. See Yates & Greenlee, *supra* note 25, at 8.

28. E.g., Yates & Greenlee, *supra* note 25, at 9.

29. See Christopher Wolf, 'Net Users Could Face IP Liability', NAT'L L.J., May 20, 1996, at C34 (arguing that merely reading material on the Internet should not be actionable).

30. E.g., I. Fred Koenigsberg, *Guarding Intangible Property in a New, Intangible Realm*, NAT'L L.J., Aug. 3, 1998, at C8.

31. John Burgess, *Global Product Piracy May Be Costing Firms Billion*, WASH. POST, Feb. 27, 1988, at B2.

32. See Selinger, *supra* note 7, at D6.

33. Jonathan Bick, *Applying Copyright Law on the Internet*, 157 N.J. L.J. 314 (1999).

34. Schrage, *supra* note 1, at C1.

35. See Burgess, *supra* note 31, at B2.

II. LOOKING AHEAD IN COPYRIGHT AND PUBLICITY RIGHTS

The papers presented at the symposium touched upon all these issues. The plenary address delivered by the Honorable S. Jay Plager of the U.S. Court of Appeals for the Federal Circuit focuses on the challenges faced by the USPTO and the courts as a result of the structural complexities inherent in patent documents. As if the particular difficulties introduced by biotech and business method patents were not enough, the patent system has built-in structural and doctrinal indeterminacy. Before a court can tackle the unique genetic and Internet-related issues in a patent, it first must determine exactly what the patent document in question implicates—i.e., what does the patent mean? The sometimes artful and often painfully functional language of patents infrequently bears adequate resemblance to the English language in which it is penned to allow the court to answer this question. The law then attempts to read into a patent those elements that could be implied through the doctrine of equivalents, adding more uncertainty. The true picture of an invention is, therefore, hard to draw. Complicating the exercise is the very limited resources that the courts and the USPTO are able to apply to individual patents. The courts have already attempted certain measures to simplify the process—for example, efforts to reconnect the law of patents with mainstream legal principles where possible. Judge Plager looks to further basic structural changes as a continuing remedy. For example, trial courts could be established to specialize in the art of patent cases. He closes with a sage warning to policymakers and other legal decision makers to be willing to consider, and to be willing to reassess, the consequences of major corrective actions.

The next two papers address progressive uses of the Copyright Act to better protect information on the Internet and personality rights. Professor R. Anthony Reese takes aim at the misapplication of the Copyright Act to computer-based viewing of protected works. Specifically, historical circumstances and contemporary judicial misinterpretation have combined to the detriment of the proper application of an author's display rights in favor of a strained application of the traditional reproduction right. Recent court decisions have used a reproduction framework to legally categorize RAM "copies" of digitized works when the display framework provides a superior analysis, as Congress clearly intended. Professor Reese convincingly demonstrates this congressional intent, making it clear to the reader why transmissions without associated permanent copies fall squarely within the display right. Where courts have gone wrong is analogizing Internet cases to television-based cases—cases in which physical copies of the protected works were made as a matter of course, and the reproduction analysis dominated the display analysis. Improperly characterizing one right as another can lead to the derivative harm of confusing the true owner of various rights and of looking to the wrong exceptions to those rights. With respect to the

Internet, considering every display to be a reproduction causes significant mischief because virtually everything displayed to a video monitor must be temporarily stored. If all such stored copies are found to be reproductions, it will be nearly impossible to view copies of works that are legally held without infringing someone's copyright. In addition to being the statutorily proper solution, application of the public display right to this situation avoids this unpleasant result.

Professor Roberta Kwall also proposes a novel application of copyright principles to a vexing legal problem created by the new informational technology. The right to personality is presently the preferred basis for performers to protect their images, but the articulation of that right with respect to digitized images suffers from some significant problems—specifically, the requirement that the misappropriation be commercial in nature and the failure to consider any valid interests in favor of the use of another's persona. Extending the moral rights doctrine in copyright law to protect personas provides a satisfying remedy to the shortcomings of the present cause of action. This approach is superior because it concentrates on the damage to a performer's image, and it does so within the balanced principles established by copyright law. Professor Kwall recognizes that the proposal may be criticized for failure to meet the statutory requirements of "works," and she systematically argues why a personality may properly be considered a work that is "fixed."

III. BRINGING THE INSIGHTS OF LAW AND ECONOMICS TO INTELLECTUAL PROPERTY

The next three papers demonstrate how economic principles may be applied to resolve or explain diverse and interesting new issues in patenting pharmaceuticals, domain name disputes, and open source software.

Professor Arti Rai tackles the controversial patent treatment received by pharmaceutical inventions and discusses how further technological change may lead to improvements in the market for novel pharmaceuticals. There is currently a tension that arises between the pharmaceutical companies and their consumers. The companies contend that the costs of developing new chemical entities are so high that the prices of pharmaceuticals must be extremely high in order to recoup those large development costs. But many potential consumers of the pharmaceuticals (and their insurers) cannot easily afford these high prices. Professor Rai holds out the hope that the evolving study of genomics will relax this tension between pharmaceutical companies and consumers by simultaneously increasing the availability and lowering the prices of new drugs through increased innovation and by paving the way for structural reforms to eliminate the problematic "special treatment" that the patent system grants to the pharmaceutical industry. Lastly, Pro-

fessor Rai predicts that the reduction in development costs that may result from genomic technology will create an opportunity to improve the cost-effectiveness of the health care system through subsidizing health insurance for the currently uninsured and under-insured. Using the favorable price discrimination of insurance is, she argues, a better solution to the problem of the high costs of prescription drugs than patent buy-outs would be, principally because the discrimination avoids the problematic estimation of social surplus required under patent buyouts. The insurance discrimination stimulates innovation, while preserving pharmaceutical access.

Professor Gideon Parchomovsky considers the economic consequences of the current domain name dispute resolution policies and finds them to miss the mark if the efficient allocation of names is the goal. The "first-come, first-served" practice of domain name allocation inevitably leads to the denial of valuable domain names to trademark owners. The best option for mark owners is to be able to prove that the domain name registrant has acquired the domain name in bad faith. Not only does the dispute mechanism involve high transaction costs, but the inherently "fuzzy" bad faith standard fails to guarantee that the domain name will arrive in the hands of the party who values it the most. It would be far more efficient, and more fair, to employ a system that awards the domain name to the proper party according to each party's valuation of the name. Professor Parchomovsky proposes an asymmetric internal auction. As between a domain name registrant and trademark owner, the high bidder receives the name in exchange for the value of the registrant's bid. The structure is designed to minimize the registrant from exaggerating her value too much. Once the auction is over, the domain name becomes inalienable for two years to preserve the integrity of the auction. This solution covers all the efficiency bases: the party with the highest value gains the name; the losing party is properly compensated; and the process is quick and very cost effective relative to the current litigation regime.

Professor David McGowan probes the curious phenomena of "open source" software, using the GNU/Linux project as a case study into this unusual intersection among contract and intellectual property law and the theory of the firm. Here, the "property" is computer software, but it is not owned by anyone in the traditional sense. Rather, unique licensing makes the property available to all, yet protects the contributions of each programmer to the product. The protections are not actively employed to enforce property rights. Instead, they act as a big stick to be used if any user deviates from the spirit of the project by exerting traditional ownership. But if programmers cannot profit monetarily as regular employees would, what drives them to put forth any effort at all? Professor McGowan considers reputational benefits, access to programming "assets" of the projects, and pleasure from combating greedy corporate

software developers as plausible pieces of an answer. However, the value of the paper comes not from delivering answers to these questions, but rather from a detailed description of a new social system that is able to produce products in a highly efficient manner, outside the model of the firm and, thus far, outside the protection of the law.

IV. REWORKING PATENT LAW REGIMES

The next three papers explore the realities of the contemporary patent regime and suggest a particular agenda to be pursued to improve the system in the future. Professor John Thomas finds merit to the accusations that the Patent Office faces a “patent quality crisis,” issuing too many patents on inventions already in the possession of the public.³⁶ With the sudden judicial expansion of patentable material, especially to the area of business methods, the Patent Office is often understandably unaware of patent-defeating prior art. And, as we have already suggested, the Office’s issuance of some Internet business method patents can be destructive to the burgeoning market. Recognizing this, the Patent Office has applied a bandage by requiring more stringent examinations. Some respected commentators have called for the implementation of European-style opposition proceedings, whereby an applicant’s competitors may bring forth the relevant prior art. Professor Thomas argues that this system is particularly susceptible to collusion between the applicant and its competitor. For instance, the competitor may offer to share in patent exclusivity in exchange for suppressing his knowledge of prior art. The government can avoid this problem by establishing a patent bounty system, utilizing the public at large as private examiners. A system in which the Office makes payment to the first donator of noncumulative, patent-defeating prior art should provide incentive to all parties, including applicants, to ferret out relevant prior art and add to the Patent Office’s library. Professor Thomas concedes that there are a number of drawbacks to the plan but ultimately concludes that a patent bounty system will better align the interests of parties to the patent proceedings with the public good than does the current system.

Though disagreeing with the basic tenets of the *Markman v. Westview Instruments, Inc.* decision, Professor Craig Nard accepts the likelihood that it is here to stay—at least in the short term. Assuming the continued acceptance of *Markman*, he argues that the Federal Circuit must finish the job left undone by its own definition. Left in an incomplete state, the patent system cannot reap the benefits of certainty and uniformity promised by *Markman*. *Markman* established patent claim interpretation to be a matter of law, subject to de novo review, but the Federal Circuit has yet to accept an interlocutory appeal upon the con-

36. The USPTO issued approximately 160,000 patents in 2000. We have no idea how many of those patents were duplicative of inventions already in the public’s hands.

clusion of a *Markman* hearing. This refusal is inconsistent with the concept of de novo review, and it is inefficient in the long-run, assuming that the *Markman* hearing will be appealed at the end of the trial anyway. Keeping with the goal of furthering certainty and uniformity, Professor Nard continues with a proposal to employ issue preclusion with respect to the interpretation of a set of claims. The combination of these proposals is the logical end of the road embarked upon by the *Markman* decision.

Professor Mark Janis concludes this section with his opinion on the proper level of involvement of the Supreme Court in matters of patent law now that the Federal Circuit has been operating for two decades. Juxtaposing two extreme models of Supreme Court activity, Professor Janis contends that a middle-ground, managerial model is ideal. The two extremes, interventionist and invisible, are replete with well-analyzed disadvantages and thus do not receive serious consideration as the preferred model. An interventionist Court is not consistent with the positive experience of Federal Circuit autonomy to date. And inertia may force an invisible Court to effectively disappear altogether. The recommended managerial model avoids these problems by allowing the Supreme Court to do what it does best, allocating power among institutional actors at stake in compelling instances. Professor Janis demonstrates how some of the Supreme Court's recent patent decisions were weakened because it did not act according to the recommended managerial model.

V. FOCUSING ON THE INTERNATIONAL DIMENSION

The final selection of papers deals with the international dimension of intellectual property protection in the coming years.

Professor Rochelle Dreyfuss alerts the audience to the structural deficiencies of the international protections as established in the *Berne Convention*, the *Paris Convention*, and the *TRIPS Agreement*. Establishing minimum standards of protection rather than uniform law, the current regime is completely powerless to simplify the procedural complexities among the multiple jurisdictions in which claims may be adjudicated. For example, there is no choice-of-law provision. Neither is there any provision to consolidate cases that arise from related instances of infringement. Though the proposed *Hague Convention* is directed at filling in some significant gaps in international civil litigation, Professor Dreyfuss illuminates special problems with intellectual property matters by a hypothetical application of the treaty to a recent Internet case. In its current incarnation, the *Hague Convention* does not require member states to enforce equitable judgments from foreign jurisdictions. Injunctions are critical remedies to intellectual property disputes. Unless they are recognized from jurisdiction to jurisdiction, intellectual property protections are toothless. Another potential obstacle arises in applying the law of other jurisdictions: What if foreign law is manifestly counter to the fo-

rum state's public policies? Professor Dreyfuss calls the intellectual property bar to actively influence the *Hague Convention* during its evolution to address the following general issues of unique importance to it: subject matter scope, equitable relief, forum, and jurisdiction.

Professor Keith Maskus takes a hard look at the factors that determine success for developing nations that strengthen their intellectual property protections scheme in accordance with the *TRIPS Agreement*. Though many of the factors pull in opposite directions through complex relationships, Professor Maskus shows that targeted improvements in their intellectual property regimes can further the economic growth of developing nations, especially if those regimes are embedded in a competitive, well-regulated domestic market. He examines the positive effects of intellectual property rights on domestic innovation and technology transfer and shows how a vigorous intellectual property rights system in a competitive economy can significantly diminish administrative costs, disenfranchise intellectual property "pirates," and forestall the adverse effects of monopoly.

VI. ACKNOWLEDGEMENTS

All the authors made significant contributions to the live symposium, not only through their presentations, but also in the engaging discussions that followed. The papers are individually valuable in calling attention to many of the central issues emerging from contemporary technological advance. But, more than that, the participants provide a collective indication that intellectual property will be a topic of increasing importance in our new millennium. We deeply appreciate the opportunity to have been involved in this symposium.

Finally, the live symposium and this issue would not have been possible without the hard work of Peggy Olsen and the editors of the *University of Illinois Law Review*. We are very grateful for their efforts. We also want to acknowledge the financial support and the continuing encouragement of Dean Thomas M. Mengler of the University of Illinois College of Law and of Professor Jack H. Knott, Director of the Institute of Government and Public Affairs of the University of Illinois.

