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Working within the Boundaries of Intellectual Property

Innovation Policy for the Knowledge Society

Edited by Rochelle C. Dreyfuss, Harry First, and Diane L. Zimmerman

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INTRODUCTION

In 2001, Oxford University Press published *Expanding the Boundaries of Intellectual Property: Innovation Policy for the Knowledge Society*, a volume that explored how the legal landscape was responding to the then-emerging 'knowledge society.' At the time, the social order was first coming to terms with what we called the 'shift from the physical to the virtual.' Advances in such fields as genetics, computer science, nanotechnology, and informatics were making significant changes in whole sectors of the economy, from financial services and manufacturing to pharmacology and publishing. As firms began to realize that their key assets were no longer real estate and capital goods, but rather information, they started to make demands for novel measures to capture their new wealth. As a result, the United States expanded trademark law to cover dilution and cyber squatting. It extended the term of copyright and recognized new rights in digitized products. Patentable subject matter came to include software, business methods, as well as genomic materials and biotechnology. Europe recognized rights in databases and developed elaborate protection for geographic indications. On the international front, the TRIPS Agreement brought intellectual property obligations to many new countries and the Patent Cooperation Treaty and Madrid Protocol made foreign registered rights easier to acquire.

These changes were, however, highly contested. The newly developed technologies were the source of creative inspiration to artists, musicians and writers; mashups and appropriation art were becoming important new forms of expression. Scientists were augmenting their research methodologies with such innovations as high throughput genetic sequencing techniques and bioinformatics. The Internet was making possible long-distance collaboration, rapid full-text searching of the world's literature, and instantaneous dissemination of digitized material. To user groups, intellectual property rights (IPRs) were interfering with creative production and hampering the accumulation of new knowledge. Institutions such as libraries, research centers, and schools found that their costs were increasing as the price of accessing protected works soared. Developing nations, without strong creative sectors, experienced rising intellectual property obligations as a tax lacking any offsetting benefits.

Expanding the Boundaries examined the case for and against strong IPRs. It took a fresh look at the empirics of the incentives to innovate. It showed where expansionary trends in IPRs could be a problem, not only by raising input costs but also by increasing transaction costs for dealing with a system of excessive and fragmented rights and by making entry and innovation in complementary markets much more difficult. It articulated the arguments for increasing—or at least maintaining—the public domain. It reviewed the need for a robust antitrust response to ensure that we have competition in innovation, not monopoly control. The book was suffused with proposals for cabining intellectual property's expansionary trend.

Since the publication of that volume, some of the proposals for limiting expansion have found purchase. New defenses to dilution have emerged, the concept of 'reverse domain hijacking' has led to a reconsideration of what constitutes cyber squatting. The US Supreme Court has orchestrated a re-evaluation of the role patents play in knowledge production and a revision upwards of the requirements for patent protection. Simultaneously, Congress has taken up the issue of patent reform. In Europe, the European Court of Justice severely trimmed the availability of database protection and the Court of First Instance approved the European Commission's decision in the *Microsoft* case, placing some competition law limits on how dominant firms can use their intellectual property rights. In some cases, the market has constrained rights holders. For example, although there are now treaty obligations to protect digital rights management techniques (DRMs) that preclude unauthorized reproduction, DRMs are so unpopular that rights holders are now devising marketing techniques that permit some degree of copying.

But these contractions are a minor part of the overall picture; expansion has largely continued unabated. Particularly in developed countries, right holders and their needs still dominate the political discourse and exert a heavy influence on legislation and international negotiations. Protection is moving upstream, to cover ever-more fundamental principles of knowledge. Defenses to infringement are narrowing; outside Europe, the bite of antitrust law is weakening. And there are demands for even newer forms of intellectual property protection—traditional knowledge and folklore rights to protect the information wealth of indigenous communities; 'ambush marketing' rights to safeguard exclusive sponsorship relationships for sporting events; celebrity rights to protect the profitability of fame. Developed countries have moved beyond the TRIPS Agreement and now exert unilateral and bilateral trade pressure to increase the level of global protection. Although emerging economies (such as the BRICs—Brazil, Russia, India, and China) have, along with certain small innovative economies (including Israel and New Zealand), pioneered a few new limitations on the scope of protection, as the BRICs become more innovative, they too are beginning to embrace the notion of strong intellectual property protection.

Expanding the Boundaries anticipated this development and included several Chapters investigating ways to solve the problems generated by the proliferation of intellectual property rights (IPRs). *Working Within the Boundaries* puts these issues center-stage. Its premise is that there is little prospect for significantly narrowing the scope of intellectual property protection. Put more positively, this volume acknowledges the argument that stable, marketable rights can improve the 'transactability' of informational wealth and that transactional autonomy (coupled, perhaps, with minor changes in law) can unleash creative business solutions to the various problems that the current intellectual property terrain presents. The contributions to this volume are therefore focused on the structure of information markets and on dealing with the expansionary trend with such techniques as work-arounds, patent pools, clearing houses, joint ventures, collective rights organizations, and

non-profit initiatives like the creative commons, open science publishing, and open archiving.

Part I sets the stage by exploring the problems engendered by strong rights regimes. Wesley M. Cohen, Frederick C. Joerg Professor of Business Administration, Fuqua School of Business, Duke University and Research Associate, National Bureau of Economic Research, and John P. Walsh, Professor of Public Policy, Georgia Institute of Technology and Visiting Professor, Research Center for Advanced Science and Technology, University of Tokyo, look, in part, at how scientists react to patents that cover fundamental discoveries and dominate broad areas of biomedical research. In the piece by Diane Leenheer Zimmerman, coeditor of this volume and Samuel Tilden Professor of Law Emerita at New York University School of Law, the issue is the extent to which copyright thwarts projects of significant public interest, including cultural preservation and full-text data searching. This first Part also makes a point often missed in discussions of intellectual property: possessory interests play a significant role in determining the quality of access to the domain of knowledge. Thus, Cohen and Walsh suggest that since scientists often use control over biological materials to create a zone of exclusivity, 'solving' the problem of overly strong intellectual property rights will not necessarily make it possible to build on earlier work and share research results efficiently. This difficulty is equally dramatic in the copyright realm. As R. Anthony Reese, Professor of Law at UC Irvine School of Law recounts, US copyright law was changed to bring works formerly subject to common law copyright into the statutory system. Although the change was intended to end perpetual protection and move these works into the public domain, that result has not always followed. In fact, there are many impediments to using works in the 'unpublished public domain.'

The Chapters in Part I include proposals for making works more accessible. However, Part II presents the main discussion of ways for coping with expansive regimes. Section A discusses norm-based strategies. Katherine J. Strandburg, Professor of Law at New York University School of Law, examines the conditions under which scientific norms for sharing are maintained and discusses policy initiatives that promote sharing. Niva Elkin-Koren, Dean and Professor of Law at the University of Haifa School of Law, looks at the growth of social networking platforms, the concomitant outpouring of user-generated content, and the developing methods of licensing users who build on the work of commercial content providers. And Daniel L. Rubinfeld, Robert L. Bridges Professor of Law and Professor of Economics at UC Berkeley, along with Theodore C. Bergstrom, Aaron and Cherie Raznick Professor of Economics at UC Santa Barbara, discuss the pressure high subscription costs for scientific and medical journals have put on researchers and universities to come up with alternative models of publication to control prices and improve access. These pieces are followed by a series of Comments, authored by Rebecca S. Eisenberg, Robert and Barbara Luciano Professor of Law at the University of Michigan Law School; Michael W. Carroll, Professor of Law and Director, Program on Information Justice and Intellectual Property, American

University Washington College of Law; Ann Okerson, Associate University Librarian for Collections and International Programs at Yale University; and Josef Drexl, Director of the Max Planck Institute for Intellectual Property, Competition and Tax Law in Munich and head of the Munich Intellectual Property Law Center, which supplement these perspectives: Eisenberg shows how 'the burden of inertia'—the ease with which claims of exclusivity are enforced—influences access to needed inputs; Carroll addresses the role of copyright in the journal pricing dilemma and Okerson, the pitfalls of bypassing the current publication system; Drexl argues against a single approach to licensing, emphasizing the need to promote market access for creative authors so as to best serve copyright's goals.

Part II, Section B shifts the focus to formal licensing strategies. Sean M. O'Connor, Professor of Law and Chair of the Law, Technology & Arts Group at the University of Washington School of Law, describes the role that intellectual property rights play in moving innovative goods and services from conception, to development, to production. He shows that creative licensing, while challengingly complicated, can create enduring relationships, in which the parties can engage in mutually beneficial exchanges of tacit, as well as patented, knowledge. The basic points of his thesis receive further elaboration in the two following Chapters. First, Eric Brousseau, Natalia Lyarskaya, and Carlos Muñiz, members of EconomiX (a joint research center of the University of Paris Ouest and the Centre National de la Recherche Scientifique), provide a theoretical and empirical framework for understanding why research licensing agreements are so heterogeneous. Drawing on a large database of technology licenses, they extensively analyze the differences among the contracts, which range from the simplest technology transfer to the most relational. The Chapter shows the numerous ways in which the most cooperative of the agreements blend elements of caution and cooperation, providing an in-depth description of how contracting parties work within the boundaries not only of intellectual property law, but also of formal legal mechanisms, in their efforts to advance the innovation process. Second, O'Connor's claim is supported by the personal experiences of Carol Mimura, Assistant Vice Chancellor, Intellectual Property & Industry Research Alliances at UC Berkeley, who describes how the University of California uses IP licenses to effectuate both the financial and humanitarian goals of university scientists. A Comment by Ronald J. Mann, Professor of Law at Columbia University School of Law, follows. Software development is an area where considerable concern has been expressed about fragmentation. Mann shows, however, that patent rights in this field have been largely beneficial.

Part II, Section C examines collective approaches to the fragmentation problem. Geertrui Van Overwalle, Professor of Industrial Property Law at the Centre for Intellectual Property Rights of the University of Leuven (Belgium) and Professor of Patent Law and New Technologies at the University of Tilburg (the Netherlands), examines different organizational formats for centralizing scattered intellectual property rights, particularly with regard to the problems of clearing patent thickets in genetics. Concentrating on patent pools and clearing houses, the Chapter points

out the main differences between these strategies, explores the difficulty of applying these organizational models in biotechnology, and concludes that no single model will work in every situation. Rather, the focus should be on the problem to be solved, not the organizational format. Richard Gilbert, Emeritus Professor of Economics and Professor of the Graduate School at UC Berkeley, addresses a critical issue in organizing patent pools—should they be limited to patents that are essential to practice the technology or can they include substitute patents? Antitrust analysis today assumes that substitutes should not be included, but Gilbert carefully reviews the economic arguments and concludes that so long as the pool includes at least one valid essential patent, consumers will likely be no worse off (and may be better off) if pools contain substitute patents. These Chapters are followed by Comments on specific areas where aggregation has been utilized: Brian D. Wright, Professor of Agricultural and Resource Economics at UC Berkeley, discusses patent pooling initiatives in the agricultural sector and Nancy Kopans recounts the experience of JSTOR, a not-for-profit online archive of scholarly journals, at which she serves as Secretary and General Counsel.

Whereas Part II looks at private initiatives that exploit and deal with intellectual property rights, Part III examines the limits of government intervention. Section A focuses on intervention at the national level. Daniel A. Crane, Professor of Law at the University of Michigan Law School, discusses how courts and antitrust enforcers should interpret the provisions that private parties are currently adopting to structure patent pools that facilitate technological standard setting. This Chapter argues that RAND (reasonable and non-discriminatory) licensing commitments should be interpreted only to prevent discrimination that would adversely affect downstream competition and that a number of procedural protections—third-party enforcement, neutral arbitrators, and burden shifting to the pool or patentees to show reasonableness of the fees—should be imposed to reduce these pools' anti-competitive potential. Ariel Katz, Associate Professor and Director of the Centre for Innovation Law & Policy at the Faculty of Law, University of Toronto, examines the economic arguments advanced for collective administration of copyrights, both as a general matter and as applied in four different settings in four different countries (the United States, Israel, Canada, and Belgium). Arguing that the rationales advanced for collective administration do not generally hold up, the Chapter presents a variety of policy recommendations for dealing with copyright collectives, including greater use of source licensing and more extensive antitrust review prior to formation. In a Comment, June M. Besek, Executive Director of the Kernochan Center for Law, Media and the Arts and Lecturer-in-Law at Columbia Law School, recounts the US experience in attempting to amend copyright law to facilitate digital preservation by libraries and archives.

Part II, Section B deals with the international experience. Margaret Chon, Donald and Lynda Horowitz Professor for the Pursuit of Justice, and Associate Dean, Research and Centers, Seattle University School of Law, discusses the impact of strong intellectual property rights on developing countries and the potential for

legal pluralism through the introduction of 'nontraditional intellectual property norms' that help to cabin the impact of intellectual property rights on economic and cultural development. Jane C. Ginsburg, Morton L. Janklow Professor of Literary and Artistic Property Law and Director, Kernochan Center for Law, Media and the Arts at Columbia University School of Law, examines the role that the principal international intellectual property treaties play in shaping and in limiting the strategies available to individual member nations for promoting optimal use of protected works.

Together, the Chapters and Comments in this volume reveal the strengths and weaknesses of the intellectual property system. While it is possible to devise strategies to work within the boundaries of expanding rights regimes, transaction costs matter (and the accounts in these pages show that these costs can be quite high). Furthermore, the solutions may themselves raise substantial business, legal, and policy problems. We are grateful to the Engelberg Center on Innovation Law and Policy for sponsoring the Conference from which this book was developed. The discussion made clear how much more work legal scholars, librarians, economists, and other social scientists must do to fully understand the demands of the Knowledge Economy.

BIOGRAPHIES

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Theodore C. Bergstrom is the Aaron and Cherie Raznick Professor of Economics at the University of California Santa Barbara. He has an undergraduate degree in mathematics from Carleton College and a doctorate in economics from Stanford. Long ago, he and Dan Rubinfeld were colleagues at the University of Michigan. He has worked in microeconomic theory, public economics, biology and economics, health economics, economics of altruism, economics of the family, and the economics of academic publishing. A collection of his academic papers can be found at <http://works.bepress.com/ted_bergstrom/>.

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June M. Besek is the Executive Director of the Kernochan Center for Law, Media and the Arts at Columbia Law School and heads the Center's program for intellectual property studies and law reform. She teaches seminars on Current Topics in Copyright (with Professor Jane Ginsburg), and Authors, Artists and Performers. Ms. Besek served as a member of the Section 108 Study Group, created by the Library of Congress and the US Copyright Office to study and recommend modifications to copyright exceptions for libraries and archives in light of new technologies. She serves on the editorial board of the *Journal of the Copyright Society of the USA* and the board of advisors of the *Columbia Journal of Law & the Arts*, and is the author of many articles and studies on copyright law issues. Ms. Besek received a JD from New York University School of Law and a BA from Yale University.

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Eric Brousseau is Professor of Economics at the University of Paris Ouest. He has been the Director of EconomiX, a joint Research Center between the CNRS and the University of Paris X, since June 2005. His research agenda focuses on the economics of institutions and on the economics of contracts, with two main applied fields: the economics of Intellectual Property Rights and the economics of the Internet and digital activities. He has published more than 50 papers in various academic journals and collective books, authored a book on the economics of contracts (1993), and edited six collective books or journal issues. In particular, he published recently with Nicolas Curien a book entitled *Internet and Digital Economics*, and (in cooperation with Jean-Michel Glachant) another book entitled *New Institutional Economics, a Guidebook* (both at Cambridge University Press). He has been involved in research for the French Government, the European Commission, the US National Science Foundation, the UN, and OECD.

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Michael W. Carroll is a Professor of Law and Director of the Program on Information Justice and Intellectual Property at American University's Washington College of Law. His research and teaching specialties are intellectual property law and cyberlaw. He also is a founding member of the Board of Directors of Creative Commons, Inc., a global nonprofit organization dedicated to providing legal and technical tools to facilitate information sharing by authors, educators, scientists, and all other creative individuals. Professor Carroll also is an active advocate for open access on the Internet to the scientific and scholarly literature. Prior to entering law teaching, Professor Carroll practiced law at Wilmer, Cutler & Pickering in Washington, DC and served as a law clerk to Judge Judith W. Rogers, US Court of Appeals for the DC Circuit and to Judge Joyce Hens Green, US District Court for the District of Columbia. JD, *magna cum laude*, Georgetown University Law Center; AB, with honors, University of Chicago.

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Wesley M. Cohen (PhD, Economics, Yale University, 1981), after teaching at Carnegie Mellon University for 20 years, joined the faculty of the Fuqua School of Business, Duke University as Professor of Economics and Management and was named the Frederick C. Joerg Professor of Business Administration in 2003. He is also a Research Associate of the National Bureau of Economic Research. Cohen's research mainly focuses on the economics of technological change and R&D. He has examined the links between firm size, market structure and innovation, firm learning, the determinants of innovative activity and performance, the knowledge flows affecting innovation, the means that firms use to protect their intellectual property (especially patents) and the links between university research and industrial R&D. He has published in numerous scholarly journals, including the *American Economic Review*, the *Economic Journal*, *Science*, *The Review of Economics and Statistics*, the *Journal of Industrial Economics*, the *Administrative Science Quarterly*, *Management Science*, *Research Policy* and the *Strategic Management Journal*. He served five years as a Main Editor for *Research Policy* and has served

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Daniel A. Crane is Professor of Law at the University of Michigan and counsel at Paul, Weiss, Rifkind, Wharton & Garrison LLP. He was previously a professor at the Benjamin N. Cardozo School of Law and has been a visiting professor at the University of Chicago, NYU, and Universidade Católica Portuguesa.

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Rebecca S. Eisenberg is the Robert and Barbara Luciano Professor of Law at the University of Michigan Law School. She has written and lectured extensively about biotechnology patent law and the role of intellectual property in research science and has played an active role in policy debates concerning intellectual property in biomedical research. Professor Eisenberg currently teaches courses on patent law, trademark law, and FDA law and has taught courses on torts, legal regulation of science and legal issues in biomedical research.

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Harry First is the Charles L. Denison Professor of Law at New York University School of Law and the Director of the law school's Trade Regulation Program. From 1999 to 2001 he served as Chief of the Antitrust Bureau of the Office of the Attorney General of the State of New York. Professor First's teaching interests include antitrust, international and comparative antitrust, business crime, and innovation policy. He is the co-author of law school casebooks on antitrust and on regulated industries, as well as the author of a casebook on business crime, and the author of numerous articles involving antitrust law. Professor First is a Contributing Editor of *Antitrust Law Journal,* Foreign Antitrust Editor of *Antitrust Bulletin*, a member of the Executive Committee of the Antitrust Section of the New York State Bar Association, and a member of the Advisory Board and a Senior Fellow of the American Antitrust Institute. Professor First has twice been a Fulbright Research

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Richard Gilbert is Emeritus Professor of Economics and Professor of the Graduate School at the University of California at Berkeley and a Senior Consultant at CompassLexecon. He was Chair of the Department of Economics at Berkeley from 2002 to 2005 and is currently Chair of the Berkeley Competition Policy Center. From 1993 to 1995 he was Deputy Assistant Attorney General in the Antitrust Division of the US Department of Justice, where he led the effort that developed joint Department of Justice and Federal Trade Commission Antitrust Guidelines for the Licensing of Intellectual Property. Professor Gilbert's research specialties are in the areas of antitrust economics, intellectual property, research and development, and energy markets. He holds a PhD in Engineering-Economic Systems from Stanford University and Bachelor of Science and Master of Science degrees in Electrical Engineering from Cornell University.

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Carlos Muñiz was born on 13 September 1980 in Buenos Aires, Argentina. He graduated with honors as a Juris Doctor/Attorney at the University of Buenos Aires in 2004. He continued his studies at Buenos Aires specializing in Law and Economics. In 2007, he enrolled on a Masters Program at the University of Paris X—Nanterre (France), finally obtaining his Masters degree in Law in 2008 as the top student of his class. For his Master's dissertation, he worked on the analysis of