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Introduction: Open Source and Proprietary Models of Innovation: Beyond Ideology

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Washington University Journal of Law & Policy

Open Source and Proprietary Models of Innovation: Beyond Ideology

Introduction

Charles R. McManis*

This volume celebrates the tenth anniversary of the *Washington University Journal of Law & Policy*, a symposium-based publication committed to bringing together communities of scholars through a mutual and collaborative student and faculty process, emphasizing existing and emerging visions of the law in relation to interdisciplinary and multicultural perspectives, the implications of technology, and the consequences of economic globalization.¹ It is eminently fitting that this tenth anniversary volume of the *Journal*, an official scholarly publication of Washington University School of Law, should be devoted to the topic, “Open Source and Proprietary Models of Innovation: Beyond Ideology,” for as an article in this

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1. See *Mission Statement*, 2 WASH. U. J.L. & POL’Y (2000): “The Journal is committed to generating a symposium-based publication that brings together communities of scholars, through a mutual and collaborative student and faculty process, emphasizing existing and emerging visions of the law in relation to interdisciplinary and multicultural perspectives, the implications of technology, and the consequences of economic globalization for the purpose of influencing law and social policy and providing students a unique learning experience.” The *Journal* is the successor to the *Urban Law Annual*, which began publication in 1968 and expanded to become the *Journal of Urban and Contemporary Law* in 1983. See *Preface*, 1 WASH. U. J.L. & POL’Y (1999).

symposium volume notes, one of the most enduring historical examples of a cultural commons, neither wholly “open” nor wholly “proprietary,” is that of the university itself.²

In keeping with the stated mission of the *Journal*, this symposium volume brings together communities of scholars to examine contemporary examples of open source innovation and emerging visions as to the interface of open source and proprietary models of innovation both within and outside the university. It also explores the impact that one of the key technologies that universities helped foster—namely the Internet—has had in stimulating global interest in open source innovation, and considers what implications this growing interest in open innovation may have for other technological and creative fields.

From a law and policy perspective, the rising interest in open source innovation also calls into question one of the fundamental assumptions underlying the law of intellectual property—namely that strong proprietary intellectual property rights are necessary to create an incentive to innovate, or at least an incentive to publicly disclose and commercialize innovation.³ At the same time, as the recent decision in *Jacobsen v. Katzer*⁴ paradoxically suggests, open source innovation and open source licenses concerning the same may

2. See Michael J. Madison, Brett M. Frischmann & Katherine J. Strandburg, *The University as Constructed Cultural Commons*, 30 WASH. U. J.L. & POL'Y 365 (2009).

3. For a discussion of the theoretical underpinnings of federal patent law, see Charles R. McManis & Sucheol Noh, *The Impact of the Bayh-Dole Act on Genetic Research and Development: Evaluating the Arguments and Empirical Evidence to Date* 9–10 (Wash. U. Sch. of Law, Working Paper, 2007), available at <http://law.wustl.edu/CLIEG/publications/mcmanis-commercializinginnovationpaper.pdf>.

4. 535 F.3d 1373 (Fed. Cir. 2008) (holding that the violation of an open source software license created a prima facie case of copyright infringement). *But cf.* *Jacobsen v. Katzer*, F. Supp. 2d, No. C 06-01905 JSW, 2009 WL 29881 (N.D. Cal. Jan. 5, 2009) (denying plaintiff's motion for preliminary injunction, on the ground that plaintiff failed to proffer any evidence of any specific and actual harm suffered as a result of the alleged copyright infringement and failed to demonstrate that there is any continuing or ongoing conduct that indicates future harm is imminent; but also holding that alleged failure to comply with open source software license did state a cause of action under the Digital Millennium Copyright Act, 17 U.S.C. § 1202 (2000), prohibiting removal or alteration of copyright management information, as a technological process was engaged to protect the author's name, a title, a reference to the license and where to find the license, a copyright notice, and the copyright owner of Jacobsen's work). See also *Jacobsen v. Katzer*, 2009 WL 1065827 (Fed. Cir. 2009) (denying defendant's motion to transfer plaintiff's appeal of the decision of the district court to the Court of Appeals for the Ninth Circuit).

ultimately depend as much on the legal tools provided by existing intellectual property regimes as they do on the Internet as a technological tool for fostering open innovation.

For all of these reasons, it is a particular privilege, as one of the two inaugural faculty advisors of the *Washington University Journal of Law & Policy*, to have this opportunity to introduce this tenth anniversary volume. The volume grew out of papers presented at an April 4–5, 2008, academic conference here at Washington University, sponsored by the Center for Research on Innovation & Entrepreneurship (now renamed the Center on Law, Innovation & Economic Growth), on the topic which has given this volume its title. The twofold purpose of this conference, as the conference topic implies, was to move beyond the polemics that often characterize the debates over open source and proprietary software development, and to explore the interface of open source and proprietary models of innovation across a number of technologies, intellectual property fields, and national boundaries.

The conference paper presentations, and hence the articles in this symposium, can be divided into four parts: Part I of the symposium consists of introductory articles on business, law, and engineering perspectives on open source innovation. Part II focuses on open source biotechnology, while Part III focuses on open source and proprietary software development. Part IV examines collaborative innovation, the economics of innovation, and two examples of constructed commons—namely universities and a multilateral system for plant innovation for food and agriculture.

I. BUSINESS, LAW, AND ENGINEERING PERSPECTIVES ON OPEN SOURCE INNOVATION

The first Article in Part I offers a business perspective on open source innovation. In this Article, entitled “Policy Challenges of Open, Cumulative, and User Innovation,”⁵ Professor Joel West, who is on the faculty of the College of Business at San José State University, examines three contemporary perspectives on

5. Joel West, *Policy Challenges of Open, Cumulative, and User Innovation*, 30 WASH. U. J.L. & POL’Y 17 (2009).

interorganizational innovation, which seek to account for an emerging “open innovation” paradigm in which firms work beyond their boundaries to obtain and commercialize innovation. Professor West then discusses the impact of various public policies upon interorganizational innovation and suggests opportunities for research in this area. The three perspectives Professor West examines are Eric von Hippel’s study of user-contributed innovation; Suzanne Scotchmer’s study of cumulative innovation; and Henry Chesborough’s (and Professor West’s own) study of open innovation—a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology.

Professor West notes that, even though the empirical record is still developing, researchers have provided evidence that interorganizational innovation can be faster, more efficient, and more diversified than alternative approaches for developing and commercializing innovation. Professor West then examines five policy levers that can affect both the supply and cost of external innovations—intellectual property (i.e., patents and copyrights); public funding of research and development (e.g., the Bayh-Dole Act); public funding of infrastructure (e.g., the Internet); regulation of competition; and taxation—and suggests opportunities for additional research in each. Professor West concludes that interorganizational innovation is not only a reality in the modern industrial world, but is a model of innovation that has existed for centuries. What is new is that personal computers and the Internet have democratized such innovation by making writing, software production, music composition, video editing and a wide array of other creative activities available to anyone having access to a PC. Whether medieval or modern, however, the underlying policy issue remains the same—how to maximize incentives for firms and individuals to innovate, while minimizing the cumulative drag on the remaining pool of potential innovators.

The second Article offers both a legal and a transnational perspective on open source and proprietary models of innovation. In this Article, entitled “The Tools and Levers of Access to Patented

Health Related Genetic Invention in Canada,”⁶ and authored by Professor Tina Piper, who is on the law faculty at McGill University, Professor Piper describes a prevailing problem of access to genetic invention in Canada caused by intellectual property disputes arising from conflicting normative orders. She examines various tools and policy levers suggested and developed to remove such blockages (i.e., state law, private ordering, international standard setting, and information aggregation initiatives), and concludes that the most effective lever for ensuring access to health related genetic invention in Canada is to influence national university technology transfer officers, adapting the tool of voluntary standards developed internationally to suit their purposes rather than formulating legislation or otherwise formally amending state law.

In the course of this discussion, Professor Piper introduces the OECD Guidelines for the Licensing of Genetic Inventions, as well as the U.S. National Institutes of Health (“NIH”) voluntary Research Tools Guideline and Best Practices for the Licensing of Genomic Inventions. She also discusses a number of international examples of private ordering, such as the Public Intellectual Property Resource for Agriculture, which is developing a humanitarian clause for material transfer agreements that would create royalty-free material transfers from developed to developing countries, though she also notes that at least two open patent licensing initiatives found that patents are ill-suited to open source and that it is difficult to mimic the open source effect to broaden access to patented innovation. Professor Piper then describes a variety of Canadian initiatives, including the University of British Columbia’s Global Access Principles, which express a commitment to building on the values of access and dissemination, promoting non-exclusive licensing based on the OECD Guidelines and considering field-of-use and jurisdictional limitations in exclusive licenses to exclude developing countries; and the West Coast Licensing Partnership, an initiative to bundle technologies from nine West Coast research institutions (including the University of British Columbia) in four areas—animal models, biomarkers, medical imaging and medical devices—through a single non-

6. S. Tina Piper, *The Tools and Levers of Access to Patented Health Related Genetic Invention in Canada*, 30 WASH. U. J.L. & POL’Y 43 (2009).

exclusive license that covers all nine of the collaborating research institutions, with the goal of “increasing global access to research tools by promoting and enhancing non-exclusive licensing.”⁷

The third Article in Part I provides an engineering perspective on open source innovation. In this Article, entitled “Contribution Attribution as the Possible Next Step for ‘Crowdsourced’ Engineering Design and Product Development,”⁸ Professor Mark Jakiela, who is on the faculty of Washington University’s School of Engineering, describes the phenomenon of “crowdsourcing”—e.g., commercial websites that accept customer-generated content from a large number of users—and examines whether engineering design and product can be crowdsourced, and if so, how. He begins by describing the sequential steps involved in engineering design and product development—namely need recognition, background search, drawing up specifications, concept generation and selection (embodiment), and prototype development—noting that these steps typically occur in a closed setting within a single company, thus facilitating face-to-face communication and allowing the design to be kept secret. Professor Jakiela next supplies a definition of crowdsourcing as “the act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in the form of an open call”⁹ and identifies two major motivations for exploring whether crowdsourcing might be utilized in engineering design and product development: (1) the possibility that many minds will produce more and better design ideas, particularly if the participants are target customers of the product; and (2) administering the project in such a way as to provide a source of temporary informal employment for the participants as “user-customer developers” (“UCDs”). Professor Jakiela notes that the second motivation raises difficult intellectual property questions with respect to protecting UCD contributions and attributing credit for the same. Professor Jakiela then surveys the

7. West Coast Licensing Partnership Website, <http://www.westcoastlicensing.com/benefits.html> (last visited May 30, 2009).

8. Mark J. Jakiela, *Contribution Attribution as the Possible Next Step for “Crowdsourced” Engineering Design and Product Development*, 30 WASH. U. J.L. & POL’Y 79 (2009).

9. *Id.* at 80.

relevant background literature and develops an informal set of specifications for credit attribution.

II. OPEN SOURCE BIOTECHNOLOGY

Part II of this symposium turns to the topic of open source biotechnology. In an Article entitled, “Open Source Human Evolution,”¹⁰ Professor Andrew Torrance, who is on the law faculty at the University of Kansas and is a Research Associate at the University of Kansas’ Biodiversity Institute, explores the legal, policy, and societal implications that both patent and open source biology systems may hold as alternative systems for regulation human genetic enhancement. On the one hand, the patent system may influence parents’ choices of genetic traits for their children. In fact, gene and gene-related patents may enable private policing of genetic engineering technologies, with strong implications for the evolutionary future of humanity. Parents wishing to ensure that their children receive particular traits often would have to secure permission from owners of patents claiming such traits, and then pay for such permission. On the other hand, if open source biology were applied to genetics (“open source genetics”), the results for human genetic enhancement could be equally significant, though quite distinct from the patent system. The application of open source genetics could affect rates of genetic innovation and access to enhancing genes. Professor Torrance argues that public policy must grapple with the implications of genetic enhancement before current technological possibilities become societal realities. He further suggests that open source genetics offers a significant alternative to the prospect of the patent system as arbiter of parental decisions regarding genetic enhancement of their children. He concludes by noting that the choices society makes about how to regulate access to human genetic enhancement could have important implications even for future trajectory of human evolution.

10. Andrew W. Torrance, *Open Source Human Evolution*, 30 WASH. U. J.L. & POL’Y 93 (2009).

III. OPEN SOURCE AND PROPRIETARY SOFTWARE DEVELOPMENT

Part III of this symposium is devoted to the seminal topic of open source and proprietary software development. The first Article, entitled “Conceiving Open Systems,”¹¹ by Professor Christopher Kelty, who is a member of the anthropology faculty at Rice University, tells the story of the contest over the meaning of “open systems” from 1980–1993, a contest to create a simultaneously moral and technological infrastructure within the software industry. The infrastructure in question includes technical components—the UNIX operating system and the TCP/IP protocols of the Internet as open systems—but it also includes “moral” components, including the demand for structures of fair and open competition, antimonopoly and open markets, and open standards processes for high-tech networked computers and software in the 1980s. Moreover, the story reveals a tension between incompatible moral-technical orders: on the one hand, the promise of multiple manufacturers and corporations creating interoperable components and selling them in an open, heterogeneous market; on the other, an intellectual-property system that encouraged jealous guarding and secrecy, and granted monopoly status to source code, designs, and ideas in order to differentiate products and promote competition. In Professor Kelty’s view, the tension proved irresolvable. And yet a resolution of sorts has occurred. The failure to create a standard UNIX operating system opened the door for Microsoft Windows NT, but it also set the stage for the emergence of the Linux-operating-system kernel to emerge and spread. The success of the TCP/IP protocols forced multiple competing networking schemes into a single standard—and a singular entity, the Internet—which carried with it a set of built-in goals that mirror the moral-technical order of Free Software.

The second Article, entitled “Slouching Toward Open Innovation: Free and Open Source Software for Electronic Health Information,”¹² by Professor Greg Vetter, who is on the law faculty at the University

11. Christopher M. Kelty, *Conceiving Open Systems*, 30 WASH. U. J.L. & POL’Y 139 (2009).

12. Greg R. Vetter, *Slouching Toward Open Innovation: Free and Open Source Software for Electronic Health Information*, 30 WASH. U. J.L. & POL’Y 179 (2009).

of Houston, offers a case study in support of the argument that some software markets have characteristics that inherently disfavor initiating or expanding the use of free and open source software (“FOSS”). The particular case study in question involves software to manage health information for hospitals or physician groups in the form of the electronic medical record, or EMR. Professor Vetter notes that, although proprietary software vendors produce most of the software for this market, the U.S. government recently undertook experimental steps to promote a FOSS package for EMR, raising the question as to whether the EMR software market is amenable to FOSS. Professor Vetter describes various factors that might signal a FOSS-disfavoring market, including low technical aptitude among users, differences among users in their workflow and software interface needs, users with dispassionate computing agendas, and entrenched proprietary competitors in an area supporting minimal complementary goods or services. He also notes that FOSS might be able to overcome these impediments in a particular software market if its unique motivational mix is strong enough. He describes potential facilitators to support this possibility. One such facilitator, specifically for the EMR market, but perhaps generally for other markets, may be safe harbors for FOSS development within any relevant anti-collaboration and anti-tinkering laws. Licensing facilitators include emphasizing approaches such as dual licensing or promoting FOSS contributions by contractors engaged by users. Professor Vetter concludes by mentioning potential non-licensing facilitators to augment the FOSS motivational mix for markets that might disfavor it.

The third Article, entitled “Open Source License Proliferation: Helpful Diversity or Hopeless Confusion?”¹³ by Professor Robert Gomulkiewicz, who is on the law faculty at the University of Washington, examines a paradox lurking in concerns by open source software developers over the phenomenon of open source license proliferation. While FOSS developers tout their widely collaborative model of software development—what Eric Raymond calls a “bazaar,” as opposed to the more hierarchical, or “cathedral” style, of

13. Robert W. Gomulkiewicz, *Open Source License Proliferation: Helpful Diversity or Hopeless Confusion?*, 30 WASH. U. J.L. & POL’Y 261 (2009).

proprietary software development—when it comes to open source software license proliferation, the tables are turned.¹⁴ FOSS leaders, such as the Open Source Software Initiative, which certifies licenses as conforming to the OSI’s Open Source Definition, praise the cathedral model rather than the bazaar, as OSI has identified license proliferation as one of the most strategic issues that it must address. In this Article, Professor Gomulkiewicz examines whether the growing number of open source software licenses represents hopeless confusion or helpful diversity. In particular, he discusses why license proliferation occurs, the pros and cons of multiple licenses, and the role that OSI has played and can play to ameliorate the negative effects of so many FOSS licenses, drawing on his own experience in submitting the Simple Public License (“SimPL”) to the OSI for certification.

IV. COLLABORATIVE INNOVATION, THE ECONOMICS OF INNOVATION, AND CONSTRUCTED COMMONS

Part IV of this symposium volume turns to the larger issue of the role of collaboration in the innovation process, the economics of innovation, and two examples of constructed commons. The first Article, entitled “The Collaborative Nature of Innovation,”¹⁵ by Professor Keith Sawyer, who is a professor of psychology and education at Washington University in St. Louis, examines a new collaborative view of innovation, which views innovation as a distributed form of mass collaboration. In Sawyer’s view, innovation emerges from what he calls “collaborative webs,” and open source communities are but one particular subtype of collaborative web. In this Article, Professor Sawyer identifies the defining features of collaborative webs, discusses the particular subtype embodied in open source communities, and analyzes how these communities could be modified to be more innovative.

14. *See id.*

15. Keith Sawyer, *The Collaborative Nature of Innovation*, 30 WASH U. J.L. & POL’Y 293 (2009).

In the second Article, entitled “Market Structure and Property Rights in Open Source Industries,”¹⁶ Professors Michele Boldrin and David Levine, who are members of the economics faculty at Washington University in St. Louis, claim that economic growth arguably “owes more to the open source approach to economic and industrial innovation than to almost any other institutional arrangement apart from private property.”¹⁷ In their view, reciprocal imitation-cum-improvement among a relatively large set of innovators is the way in which new and successful industries have almost always developed in societies where some form of private property was allowed, and profit-seeking private initiative permitted. They note there are only a few remarkable exceptions to the innovation-imitation-improvement (“3-I”) dynamics, but argue that even in these exceptional cases it was not for lack of many simultaneous innovators-entrepreneurs that the 3-I dynamics did not emerge, but rather because patent laws and a bit of luck allowed a few to acquire a dominant position from the start. However, absent a dominant monopolist, well protected by an armor of patents from the start, Boldrin and Levine argue that most industries seem to develop by means of the 3-I dynamics that open source arrangements make possible and fuel. Paradoxically, economists concerned with the theory of innovation and economic growth have tended to ignore the open source phenomenon, and two of the three studies that have examined the economics implications of open source software are said to be “clearly puzzled by the entire concept.” A central source of surprise is that innovation can thrive in a market without traditional intellectual property—something that, according to established economic theory, should not happen. Boldrin and Levine, however, boldly claim that there is no reason to believe that intellectual property or monopoly power is needed for innovation, and that the market for open source software is the poster child for this perspective.

The last three articles in Part IV examine two examples of constructed environments for open source innovation. The first

16. Michele Boldrin & David K. Levine, *Market Structure and Property Rights in Open Source Industries*, 30 WASH. U. J.L. & POL’Y 325 (2009).

17. *Id.* at 325.

Article is entitled, “The University as Constructed Cultural Commons,”¹⁸ and is co-authored by three law professors, Michael Madison, of the University of Pittsburgh, Brett Frischmann, of Loyola University-Chicago, and Katherine Strandburg, now a member of the law faculty at New York University. In their Article, the authors frame an agenda for investigating innovation contexts, beginning with a theoretical examination that differs from the standard accounts of innovation problems and solutions, and then apply this framework to the university, which they describe as “one the very oldest, most durable, and most important examples of commons in the cultural environment and one that is neither wholly ‘open’ nor wholly ‘proprietary’ in any meaningful sense.”¹⁹ In their theoretical discussion, the authors draw on the work of Elinor Ostrom, who has explored commons and the governance of the same in the natural resource environment, and draw an analogy between the natural resource environment and the cultural environment. They then illustrate how the university and institutions and practices embedded within it rely on a variety of tools—formal intellectual property doctrines, social norms, expectations grounded in history, and the very physical structures that comprise most university facilities—to construct commons across a range of places and practices, from the classroom all the way up to the very notion of scholarly research and knowledge production. Their conclusion is that treating the university as constructed commons offers a more nuanced basis for diagnosing its strengths and weaknesses in the cultural environment than models based primarily on theories of proprietary rights, government subsidies, or the public domain. They note that the chief implication of their work is that normative choices regarding models of innovation and creativity are not either/or, but vary in their details based on the constructed characteristics of specific contexts. The issue is not whether to use law and policy to promote creativity and innovation, but rather precisely how to do so.

The final two articles in this symposium volume examine the interface of open source and proprietary systems of plant innovation, as envisioned and implemented in the Food and Agriculture

18. Madison, Frischmann & Strandburg, *supra* note 2.

19. *Id.* at 367.

Organization's International Treaty on Plant Genetic Resources for Food and Agriculture ("the new FAO Treaty"). The first Article, entitled, "The Interface of Open Source and Proprietary Agricultural Innovation: Facilitated Access and Benefit Sharing Under the New FAO Treaty,"²⁰ examines how the new FAO Treaty, the first internationally constructed commons for facilitating access to plant genetic resources for food and agriculture (the "Multilateral System"), combines that Multilateral System with a mandatory system of fair and equitable sharing of the benefits (including commercial benefits) growing out of proprietary as well as open source innovation based on facilitated access to the Multilateral System. In this Article, my co-author, Dr. Eul Soo Seo, and I critically examine how effectively the new FAO Treaty combines these open source and proprietary elements and compare this commendable, albeit imperfect, Multilateral System with its potentially bipolar alternative—namely the continuation of current controversies over the patentability of genetic materials and of reactive assertions of sovereignty over plant genetic resources.

The second Article on the new FAO Treaty complements the first and is entitled "The FAO Multilateral System for Plant Genetic Resources for Food and Agriculture: Better than Bilateralism?"²¹ In this Article, Muriel Lightbourne, who is a Visiting Scholar at University of Illinois at Urbana-Champaign College of Law, first attempts to show how two crops—soybeans and coffee—that were kept out of the Multilateral System at the insistence of China and Ethiopia, the respective centers of origin of the same, cannot be valued in the framework of bilateral agreements. She then compares the main features of the Standard Material Transfer Agreement called for by the new FAO Treaty, with those of the GNU General Public License, with a particular focus on plant materials currently under development and benefit-sharing provisions. She concludes that although the impact of the FAO Treaty might not be tremendous, the

20. Charles R. McManis & Eul Soo Seo, *The Interface of Open Source and Proprietary Agricultural Innovation: Facilitated Access and Benefit-Sharing Under the New FAO Treaty*, 30 WASH. U. J.L. & POL'Y 405 (2009).

21. Muriel Lightbourne, *The FAO Multilateral System for Plant Genetic Resources for Food and Agriculture: Better than Bilateralism?*, 30 WASH. U. J.L. & POL'Y 465 (2009).

world is better off with it than without it, as it should enhance conservation efforts at the international level and help channel available funds to real priorities in terms of conservation, while reducing the existing duplication of efforts conducted by separate collections. She also concludes that the FAO Treaty holds the potential for bringing forth more equitable benefit sharing arrangements than either the Convention on Biological Diversity, whose Bonn Guidelines on benefit sharing are not binding, or the WTO-administered Agreement on Trade-Related Aspects of Intellectual Property Rights, which mandates only limited proprietary protection for the contributions of subsistence farmers to the development of new plant varieties.

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The academic conference which gave rise to this symposium volume would not have been possible without the generous financial support provided the Center for Research on Innovation & Entrepreneurship (now renamed the Center on Law, Innovation & Economic Growth) by the Ewing Marion Kauffman Foundation. This symposium volume is the second in a series of directed research projects organized by the Center, the first of which was based on a November 2005 academic conference at Washington University in St. Louis on the topic, Commercializing Innovation, and will be published by Cambridge University Press under the title, "Perspectives on Commercializing Innovation."²² A third directed research project of the Center, on the topic, the Economics and Law of Innovation, was the subject of an April 2009 academic conference held at Washington University in St. Louis and co-chaired by my colleague, Professor Gerrit De Geest, who has since been appointed Co-Director of the Center on Law, Innovation & Economic Growth, and will be published as a special issue of the online publication, *Review of Law & Economics*.

The Center also gratefully acknowledges the contributions of all of the participants in the conference entitled, "Open Source and Proprietary Models of Innovation: Beyond Ideology," held at

22. Edited by Scott Kieff and Troy Parades.

Washington University on April 4–5, 2008, whose timely submitted conference keynote presentations, papers, and commentary comprise the articles in this symposium volume.

The Center is also grateful for the expedition and professionalism with which the editors of the *Washington University Journal of Law & Policy* have edited this symposium volume and seen it through to timely publication as the tenth anniversary volume of the *Journal*.

Finally, the Center is grateful to Ms. Karma Jenkins, Administrative Coordinator of the Center, not only for all of her efforts to make the April 2008 conference such a success, but also for the grace and poise she has brought to all of her responsibilities at the Center. In August 2009, Karma will begin a new phase in her career, as she has been admitted as a member the first-year law class at the University of Missouri-Columbia. While we at Washington University School of Law will miss Karma's grace and poise as the Center's Administrative Coordinator, we wish her well in her legal education and look forward to welcoming her as a member of the legal profession.