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### Foreword

Christine D. Galbraith  
*University of Maine School of Law*

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## FOREWORD

*Christine D. Galbraith\**

On September 29, 2006, the University of Maine School of Law and the *Maine Law Review*, hosted a conference entitled “Closing in on Open Science: Trends in Intellectual Property & Scientific Research.” The event brought together academics, practitioners, scientists, and students to evaluate the current structure of intellectual property laws and its impact on innovation. The articles published in this Symposium represent a wide variety of viewpoints and diverse approaches to the issues implicated by the intersection of patent policy with scientific research.

The first two articles examine the experimental use exception from quite different perspectives. In *Adoption of the Bayh-Dole Act in Developed Countries: Added Pressure for a Broad Research Exemption in the United States?*, Michael Mireles begins with a review of the Bayh-Dole Act which altered prior policy by allowing recipients of federal funding to obtain title to any patentable inventions that resulted from such research. In the more than twenty-five years since passage of Bayh-Dole, there has been a proliferation of patenting and licensing by universities, although as Mireles points out it is far from clear whether Bayh-Dole is primarily responsible for this remarkable increase. Nonetheless, in a purported attempt to attain similar growth in patenting, licensing, and related activity, a large number of developed countries have recently adopted or are considering legislation similar to Bayh-Dole. However, as Mireles explains, the historical, practical, and structural differences between university systems in these countries and the United States makes such results even more uncertain. Nevertheless, Mireles cautions that if this legislation has the desired effect in these countries, it could actually have considerable negative consequences in the United States.

According to Mireles, the most frequently raised criticism of the Bayh-Dole Act is that it is contributing to the development of a tragedy of the anticommons. Mireles posits that increased patenting and licensing by developed countries could lead to amplification of this problem. This is due to the fact that while countries outside of the United States have robust experimental use exemptions which generally insulate them from an anticommons, the United States has only a very limited common law research exemption. Mireles therefore contends that this dichotomy will result in significant pressure on the United States to enact or develop a more expansive research exception similar to that of most European countries and Japan.

In *The Experimental Use Exception to Patent Infringement: Do Universities Deserve Special Treatment?*, Elizabeth A. Rowe examines the Federal Circuit’s decision in *Madey v. Duke University*,<sup>1</sup> which held that universities can be found liable for patent infringement when they engage in research or conduct experiments which utilize patented inventions. Although this decision has generally been viewed by academic commentators as a considerable narrowing of the experimental use

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\* Associate Professor of Law, University of Maine School of Law. Many thanks to the participants in the conference and contributors to this Symposium issue. Additionally, thank you to the various members of the *Maine Law Review* who worked so diligently on this issue, as well as the numerous individuals who were instrumental in the organization and success of this conference.

1. 307 F.3d 1351 (Fed. Cir. 2002).

exception, Rowe contends that it is actually consistent with existing law. Additionally, Rowe claims that as universities have moved closer to a business for-profit model, it seems inequitable to provide extensive immunity. Furthermore, Rowe maintains that a broad experimental use exception is undesirable as such an erosion of patent-holders' rights would create disincentives to invest in patenting and innovation, ultimately to the detriment of society. Lastly, Rowe asserts that only in exceptional circumstances should the experimental use exception be legislatively expanded. Accordingly, Rowe proposes a test which would require a finding that a patent holder's refusal to license an invention will have an injurious effect on the public welfare and on innovation before any such broadening should be permitted.

The next article explores an alternative conceptualization of the patent system. In *A Virtue-Centered Approach to the Biotechnology Commons (Or, The Virtuous Penguin)*, David W. Opderbeck examines the role virtue ethics can play in formulating biotechnology intellectual property policy. Opderbeck begins by discussing the generally employed instrumentalist and utilitarian approaches to intellectual property rights, as well as their relative shortcomings. Opderbeck then posits that virtue ethics could provide a method by which the useful attributes inherent in these existing theories could be integrated in order to advance a more robust and humane treatment of intellectual property in society. Next, Opderbeck summarizes the core themes of contemporary virtue ethics, including its four main axes of community, practices, tradition, and teleology. Opderbeck explains how these themes relate broadly to open source production. Opderbeck then further develops these concepts within the context of the environment and healthcare, ultimately applying them to biotechnology.

The following two articles focus on the necessity and potential structure of cooperative strategies as an alternative to a purely proprietary-based patent system. Lee Petherbridge's article *Road Map to Revolution? Patent-Based Open Science* explores the appropriateness of employing an open science paradigm to the life sciences. While Petherbridge does not advocate dispensing with a proprietary-based patent system, he believes an open science approach may complement the existing framework, particularly in situations where licensing is costly, market demand for access to rights appears low, or it is unlikely that investment returns will be in the form of licensing revenue. Petherbridge begins by discussing the industrial and legal infrastructure in the life sciences, as well as its impact on innovation. Next, Petherbridge examines the theoretical and legal issues surrounding the use of a patent-based open science model in the life sciences. Petherbridge concludes by proposing a mechanism for utilizing such an approach, namely the use of an equitable servitude.

In *Open Source Approaches in Biotechnology: Utopia Revisited*, Yann Joly questions the correctness of promoting cooperative strategies without evidence that such changes are actually necessary. Joly's article commences with a brief discussion of the structure, justifications, and limitations of the patent system. Next, Joly considers whether the purported norm of open science has historically ever existed and then contrasts this with the open source model that has recently emerged within the computer programming community. Joly then evaluates the claim that the structure of the patent system has created an anticommons, ultimately concluding that there is insufficient evidence to support this contention. Nonetheless, Joly argues that an open source approach may be justified, not on the grounds of the supposed deficiencies in

the current patent system, but due to the numerous advantages provided by such collaborative methodologies.

The last article featured in this Symposium issue is Kristen Osenga's *Rembrandts in the Research Lab: Why Universities Should Take a Lesson from Big Business to Increase Innovation*. Osenga confronts the prevalent view that the obtainment of patents by universities is problematic, instead maintaining that the strategic acquisition and exploitation of patents can have a beneficial effect. In the first part of her piece, Osenga studies the obstacles to university research, namely lack of funding and lack of access. Osenga then analyzes the perceived harms associated with patenting by universities and argues that such views are unwarranted especially in light of the fact that no study convincingly ties the presence of patenting to a decrease in research and innovation. Next, Osenga explores the lessons businesses have learned concerning the exploitation of their intellectual property assets. In particular, Osenga draws upon the principles outlined in *Rembrandts in the Attic*,<sup>2</sup> a book designed to provide business executives with guidance in developing an intellectual property strategy. Osenga concludes by applying this methodology to the university setting and proposing an infrastructure for implementing these ideas.

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2. KEVIN G. RIVETTE & DAVID KLEIN, *REMBRANDTS IN THE ATTIC: UNLOCKING THE HIDDEN VALUE OF PATENTS* (2000).

