THAT THOSE ALONE MAY BE SERVANTS OF THE LAW WHO LABOR WITH LEARNING, COURAGE, AND DEVOTION TO PRESERVE LIBERTY AND PROMOTE JUSTICE.

— Leslie H. Buckler, Professor, UVA School of Law, 1931

Inscribed on the face of Clay Hall
This publication celebrates the scholarship of the University of Virginia School of Law. Each year, the Virginia Journal presents in-depth intellectual profiles of selected scholars and a survey of recent publications by the entire faculty. Since our first issue in 1998, we have profiled thirty different members of our faculty. Their scholarship reflects a wide variety of interests, perspectives, and methodologies, but a consistent commitment to excellence. Our goal is to maintain an intellectual community where the broadest range of opinion and debate flourish within a framework of common purpose. Every person portrayed in these pages has contributed to that goal, not only by his or her published work, but also by constructive participation in our community of scholars.

This year’s Virginia Journal presents three additional members of our faculty:

Margo Bagley is a leader in bringing comparative and cross-border perspectives to bear on patent law. Prior careers as an engineer and a patent lawyer give her a deep familiarity with the patent system that generates counterintuitive insights. One of these is her recognition that existing doctrine is sufficient to deal with business method patents involving the Internet. Margo thus became an early proponent of the view that the rising importance of the Internet does not require a fundamental retooling of American property law. Margo’s observation that patent doctrine once screened for morally objectionable inventions but that courts have quietly abandoned the test—and her prescriptions for dealing with that shift—have generated worldwide attention and debate.

Greg Mitchell’s work has gained widespread attention because of its insistence on maintaining scientific rigor when bringing the results of behavioral experiments to bear on legal debates. His central message is that context matters—and therefore to say that experimental subjects act in a specific way on average in one setting does not allow the policy maker to assume that all individuals act that way in all settings. Greg’s thorough grounding in experimental psychology and the care that he brings to the interpretation of results outside their original domain makes him one of the most perceptive thinkers in the growing field of law and behavioral science.

John Setear has played an important role in introducing the insights of the international relations branch of political science to international law. Today it is so common to see international law and international relations theory discussed in the same breath that it is easy to forget that when John began his scholarly career, public international law was one of the areas of legal inquiry least affected by the interdisciplinary trend in legal scholarship. John’s work uses basic insights from game theory to illuminate the behavior of states, which—like the typical strategic agents whose behavior game theory analyzes—are not forced to cooperate by any higher-level authority, but instead cooperate or not depending on the incentives facing them.

Paul G. Mahoney
Dean
Margo A. Bagley

Engineering Solutions to Patent Puzzles

Margo Bagley’s path to the law was anything but direct. From the time a woman from the Tennessee Valley Authority visited her ninth grade class in Huntsville, Alabama and talked about careers in engineering, Bagley was sure she wanted to become a chemical engineer. She focused all of her efforts on that goal. She enrolled in summer engineering programs and internships while in high school and college, majored in chemical engineering at the University of Wisconsin-Madison, and eventually took a job as a research and design engineer with Procter and Gamble in Ohio. As Bagley began her work, she fully expected to spend her career solving problems related to consumer products such as Jif® peanut butter, Duncan Hines® cake mixes, and Hawaiian Punch® beverages.

Working with patent attorneys, however, caused her to change her sights. She was intrigued by their work and saw the possibility of a job that would build on her years of science and engineering training.

She was intrigued by the possibility of a job that would build on her years of science and engineering training.
build on her years of science and engineering training. Indeed, to be a patent attorney registered to practice before the United States Patent & Trademark Office requires a science or engineering background, which made it seem like a perfect fit. After a brief stint at the Coca-Cola Company as a Senior Research Analyst, Bagley entered Emory University School of Law as a Woodruff Fellow with the goal of becoming a patent attorney.

Bagley loved law school and left as she began: determined to be a patent attorney. Following her graduation in 1996, she practiced patent law with two firms, both in Atlanta. As luck would have it, one of her clients was based in Paris, which not only offered her the chance to travel abroad but piqued her interest in international and comparative patent law and policy. She has continued to pursue this interest as an academic, both in her teaching and in her scholarship. Indeed, one of the first things Bagley did after joining the Emory law school faculty in 1999 was to create a seminar in international and comparative patent law and policy, a course which she has taught fourteen times in the past eight years in various locales in the United States, China, Singapore, and Germany.

Bagley’s experience teaching this seminar, as well as other patent classes, has helped shape her scholarly agenda. Patent is a fertile field for research, exploding with provocative and complex issues of global importance. Bagley’s classes, which are always well received by students at home and abroad, inevitably touch on issues that she subsequently explores in more depth in her scholarship.

Currently, Bagley has three broad research topics. One takes a comparative approach to exploring the impact of patent law on the development of biotechnology, biodiversity protection, and access to essential medicines. The second, which often intersects with the first, concerns the issues generated by expanding judicial definitions of patent-eligible subject matter. The third involves patent issues associated with university-industry technology transfer and entrepreneurship.

Bagley’s first article as an academic, “Internet Business Model Patents: Obvious By Analogy,” 7 Michigan Telecomm. & Tech. L. Rev. 253 (2001) focused on one aspect of the ongoing controversy created by business method patents. This award-winning paper fit perfectly with Bagley’s interest in the expanding scope of patent protection, and in it she showed signs of the pragmatic, careful, and thoughtful analysis that would mark all of her scholarship. While other scholars criticized the fact that business methods could be patented, Bagley’s starting assumption was that such patents were here to stay. She therefore explored ways to deal with some of the issues and problems these patents created. In particular, Bagley argued that existing patent law principles, specifically the doctrines of analogous art and of equivalents, could adequately cabin the scope of Internet business model patents without the need for legislative action.

Bagley’s second article sprang from questions that arose while teaching courses in domestic, international, and comparative patent law. “In Patently Unconstitutional: Geographical Limitations on Prior Art in a Small World,” 87 Minn. L. Rev. 679 (2003), Bagley examined the U.S. Patent Act’s geographical limitations on prior art. These geographical limitations, which appear in various subsections of section 102 of the Patent Act, preclude evidence of public knowledge and/or use of an invention in a foreign country from being relied upon to disprove the novelty and non-obviousness of that invention in the United States. In other words, they make irrelevant the fact that a proposed invention might already be known or used in a foreign country.

While other scholars had criticized the policy implications of these geographical limitations, Bagley was the first to assess whether those limitations are constitutional. Bagley’s analysis led her to conclude that such limitations run afoul of the Intellectual Property Clause. Congress lacks authority under that Clause, Bagley argued, to provide patent protection to inventions that are obvious or not novel. By excluding evidence of foreign knowledge or use of certain inventions, the geographical limitations ensure that patent protection will indeed be granted to inventions that are neither novel nor nonobvious; this is especially true given the relative ease of accessing foreign public knowledge.

Bagley supplemented her constitutional analysis with a fresh, com-
Moral objections are not relevant under these standards. Bagley contrasts this latitudinarian approach to the “ask questions first, patent later” approaches taken in Europe and Canada.

Most commentators who have considered the question of employing a morality inquiry in biotech patent law have dismissed the notion as unworkable and a distraction from the real question of whether it is proper to pursue certain areas of research and development. (Think cloning.) Bagley acknowledged that there are certainly risks involved with such an inquiry, but she also argued that there is a great deal of room for improvement over the current approach. That approach, Bagley argues, rests on misconceptions and misunderstandings.

For years, courts relied on a judicially crafted “moral utility” doctrine, which they used to screen out morally objectionable patent applications. This doctrine was used both by courts and the United States Patent and Trademark Office (USPTO) to deny patents to morally controversial inventions under the fiction that such inventions were not “useful,” as required by law. The problem is that that doctrine has all but disappeared, but no one has told Congress or the USPTO.

As a result, no one is manning the gate anymore. In reality, patent applicants, rather than Congress, the USPTO, or courts, are deciding which morally questionable inventions are nonetheless worth pursuing. Surely Congress rather than patent applicants, Bagley argues, should be making policy decisions about the patentability of morally objectionable inventions, such as human-animal chimera.

This provocative article has generated a great deal of attention and admiration in the United States and abroad. It has influenced the work of scholars in such diverse places as the Netherlands, Singapore, Brazil, Germany, and Uzbekistan. It has also led to several additional publications by Bagley, including an op-ed, “Patents and Morality: A Role for Congress,” The National Law Journal, May 3, 2004; a symposium essay, “Stem Cells, Cloning and Patents: What’s Morality Got to Do With It?,” 39 Ncew Eng. L. Rev. 501 (2005); and a book chapter in a multi-volume treatise “A Global Controversy: Biotechnology Patents and Morality,” in Intellectual Property...
Margo A. Bagley on the often overlooked impact of patent novelty rules on academic discourse. The problem is that to secure a patent, the applicant must show that the invention is novel; if an academic shares her research with colleagues for feedback and revision, she runs the risk of being unable to prove later that the proposed invention is novel. Bagley thus argued that the novelty rules in our one-size-fits-all patent system lack sufficient elasticity to accommodate the different norms and practices of academia. These rules essentially force university researchers to choose between engaging in prompt and open discourse and obtaining proprietary rights. In addition to identifying this dilemma, Bagley went on to propose a solution. She argued for the creation of an opt-in, extended grace period, which would grant academic researchers additional time to publish and present early-stage research before having to file a patent application. By coupling the time extension with immediate application publication (as opposed to the eighteen-month publication delay under the current system), Bagley’s proposal provides something for everyone: third parties would receive notice of proprietary claims, while researchers would be able to engage in traditional academic discourse while retaining the ability to obtain proprietary rights useful for the commercialization of their inventions.

As Bagley’s proposal illustrates, her scholarship, like her teaching, remains focused on developing workable solutions to real problems. She has the legal academic’s flair for and facility with theory, to be sure. But to the delight of her students and her readers, she has retained the engineer’s desire to solve actual problems. This may explain why, in a short period of time, Bagley has emerged as a highly respected, trusted and valuable contributor to the development and refinement of patent law and policy, both in the United States and abroad.
EXCERPTS

Patent First, Ask Questions Later: Morality and Biotechnology in Patent Law

45 Wm. & Mary L. Rev. 469 (2003)

IN CLONING TREVOR, JOURNALIST KYLA DUNN CHRONICLES the unsuccessful efforts of a group of scientists at Advanced Cellular Technologies (ACT) to create an embryonic clone of a two-year-old boy afflicted with a rare genetic disorder. Theoretically, the development of such an embryo, made with one of the boy’s skin cells and a donated human egg, could yield embryonic stem cells which, when injected back into the boy, might halt and reverse the disorder. This effort is an example of therapeutic cloning—the creation of genetically modified embryos that ultimately will be destroyed in order to produce cures for various human ailments. By contrast, reproductive cloning has as its aim the development, also from a genetically modified embryo, of a fully formed child. Therapeutic cloning is less abhorrent to many than reproductive cloning, but both are morally controversial, and neither type of research is eligible for federal funding. Instead, private sector entities, like the ACT researchers that attempted to clone Trevor, are funding work in these areas.

While federal funding may not be available for cloning research, federal patent protection, which provides an incentive for private funding, is available. For example, a cloning patent was issued to the University of Missouri in April 2001, claiming inventions directed to, among other things, methods for “producing a cloned mammal” and for “producing a cloned mammalian embryo.” Moreover, the patent disclosure states that “the present invention encompasses the living, cloned products produced by each of the methods described herein.” The patent and news reports of other human cloning activity drew critical reaction, commentary, and calls for legislative action from a variety of sources. However, none of the proposed amendments, either to ban patents on cloning or to ban cloning research, have been enacted to date.

Why is the federal government granting exclusive property rights, which in effect act as indirect research funding, in inventions for which it will not, for public policy reasons, provide direct research funding? Patents can be seen as a type of indirect funding because they provide incentives for parties to undertake expensive and risky research. Patents induce upfront funding of projects with the expectation that monopoly profits can be generated over the long term. This situation, which appears inconsistent, does not necessarily involve active and deliberate congressional authorization of patents on such morally controversial inventions. Rather, Congress simply may not appreciate the ramifications of its inaction in sustaining the current “patent first, ask questions later” U.S. patent regime.

Under a “patent first, ask questions later” approach, a patent issues, and to the extent its claimed subject matter conflicts with norms or values held by a meaningful portion of society, the patent generates, among other things, public expressions of outrage, questions of how it issued in the first place, and often calls for Congress to address the perceived problem legislatively. The U.S. “patent first” approach has the potential in areas to create problems in a variety of technical disciplines and only tangentially related to morality concerns. The problems the approach creates with regard to morally controversial biotech subject matter, however, make a compelling case for why congressional action in this area is necessary and long overdue. For this reason, this Article focuses on issues raised by the lack of any morality-based limits on biotech patent subject matter.

Biotechnology is an area in which many morally questionable inventions are generated. Controversial patented biotech inventions include: isolated genes, sequenced DNA, medical procedures, embryonic stem cells, genetically modified transgenic animals, and methods of cloning mammals. The moral controversies surrounding these and other biotech inventions stem from several concerns including those arising from the
mixing of human and animal species, the denigration of human dignity, the destruction of potential human life, and the ownership of humans. The availability of a government imprimatur granting exclusive rights over morally controversial inventions is especially problematic in the area of bio-technology because no one should “own” and the government should not encourage certain inventions.

The U.S. patent system has not always had this “patent first” approach to moral issues. For many years a judicially created “moral utility” doctrine served as a type of gatekeeper of patent-eligible subject matter. The doctrine allowed both the USPTO and courts to deny patents on morally controversial subject matter under the fiction that such inventions were not “useful.” The gate, however, is currently untended, as a result of judicial decisions that interpreted the scope of the statutory utility and subject matter standards under the Patent Act of 1952 in a way that left no room for a moral utility doctrine. Beginning in 1980 with *Diamond v. Chakrabarty* and continuing to the present, the Supreme Court has expansively and consistently held that Congress intended the definition of subject matter eligible for protection under the 1952 Patent Act to include any type of living or nonliving matter, as long as it is “made by man.” Combining these decisions with the Court’s generous deference to Congress in Intellectual Property Clause matters means that no explicit basis exists for denying patent protection to otherwise patentable, morally controversial subject matter.

Members of Congress may not appreciate fully this change of events because of statements by the USPTO declaring that it would deny patents on certain morally controversial inventions for public policy or, in the case of inventions comprising humans, Thirteenth Amendment reasons. Members of Congress have cited such statements in arguments against specific legislation directed at banning human-cloning patents. The USPTO, however, is claiming power that it does not have. The Supreme Court has already interpreted the patent statute without reference to any limits based on moral considerations and the idea that the Thirteenth Amendment could support the denial of patents, on genetically modified pre-viable fetuses for example, is doctrinally unsound. The USPTO thus lacks the authority to deny patents on morally controversial inventions, even ones that comprise human genetic subject matter, and has in fact issued patents encompassing human genetic subject matter, despite earlier pronouncements.

Further complicating congressional action to address the patent eligibility of morally controversial biotech subject matter may be misunderstandings of the basic nature of the U.S. patent-grant system. The Patent Act of 1952 entitles a person to patent her invention if it meets the statutory requirements for patentability, which include novelty, utility, and nonobviousness. As most of the morally controversial biotech inventions are new and targeted at curing human disease, if only tangentially, such express statutory requirements have not and likely will not prove too difficult to surmount. In the absence of statutory limits, researchers and their patent attorneys are making patent policy and determining the limits of patent eligibility by the subject matter described in their patent applications. Congress may not be aware that inaction on its part has placed patent applicants in the position of de facto arbiters of patent eligibility, thereby providing private entities with incentives, via granted patents, to develop and exploit morally controversial inventions without engaging in any analysis of the policy implications of such decisions. As a result, Congress may be forced to debate, in the not too distant future, whether patents on human-animal chimera, or genetically modified pre-viability fetuses, developed to be destroyed in the fight against some dreaded disease, should have been granted.

Facially, the U.S. “patent first” approach appears to reflect a normative congressional choice of a system that defaults in favor of patent eligibility while leaving specific subject matter exclusions for subsequent reactive legislation. However, appearances can be deceiving. Congress could certainly have chosen to create a “patent first” system in which advancing technology was the only concern. Alternatively, Congress could acquiesce in the operation of such a system by declining to enact legislation to correct it. A variety of evidence suggests, however, that Congress has not
intentionally created such a system, nor intentionally acquiesced in such a system. Rather, as posited in this Article, Congress believes that there are pre-issuance barriers to patentability in the system, is “unaware” of the complete lack of morality-based limits in the current system, and has yet to speak definitively on this issue.

Without statutory bars to the issuance of morally controversial patents, the public and Congress are continually in a reactive instead of proactive mode in assessing the potential impact of patenting such subject matter. Issues surrounding takings and government interference with property rights and contractual relations complicate and confound Congress’ ability to adequately define patent eligible subject matter after the fact. In addition, a lack of public understanding regarding how the patent system operates likely traps some people in the “is-ought fallacy;” the erroneous assumption that because the law allows some governmental action, that action must be proper. Finally, as with therapeutic cloning, the ends to be achieved by exploitation of these patents, such as curing serious human ailments, are seductively desirable and politically explosive. These factors combine to make the necessary, but ex post, inquiry into whether the morally controversial “means” to achieve these desirable ends are appropriate subjects for patent protection, exceedingly difficult to undertake.

A different order or type of inquiry, such as determining patent subject matter eligibility before a patent issues, could provide a way to improve the current state of affairs. It makes little sense to execute people and then try to ask them questions regarding their guilt or innocence (i.e., whether it was “right” to execute them). Similarly, granting patents on morally controversial biotech subject matter and then asking whether such inventions should be patentable is a problematic policy for the United States and its patent system. Interestingly, other countries have taken “ask questions first, then patent” approaches to morally controversial subject matter that, while imperfect, provide illustrative alternatives to the haphazard course the United States is currently pursuing. The most recent example is the December 2002 decision of the Canadian Supreme Court excluding higher life forms from patent protection without an express statutory authorization from Parliament.

Admittedly, while a “patent first” approach is problematic, good reasons clearly exist for leaving questions of morality out of patent law. Some commentators point to the patent system being ill-equipped to engage in such inquiries that are better left to regulatory agencies. Others correctly note that denying patents on morally controversial inventions will not stop the underlying research that is the source of public concern. Still others posit that failing to grant patents on promising technology, perhaps because of public misunderstandings of science, may hinder important discoveries and deny life-saving cures to millions. In essence they argue that the system is not broken, and to the extent it is, it would be better not to fix it because the solution—any type of morality-based limitation—could be far worse than the current problem.

This Article analyzes such arguments against morality-based patent legislation in light of the larger themes of institutional competence and federal patent policy. By identifying which actor has the institutional competence to make decisions of high public policy, as well as which actor is actually making such decisions, the Article exposes a key flaw in the current system that requires a remedy. Also, the Article posits that framing the issue of patent eligibility with reference to the policies Congress seeks to effectuate via the patent system further supports the conclusion that legislative action is indeed necessary, though not free from risk.
Academic Discourse and Proprietary Rights: Putting Patents in Their Proper Place

By Most Measures, the Numbers Are Pretty Impressive.

In fiscal year 2004 alone, approximately 154 U.S. universities reaped over $1 billion in net patent licensing income, executed 3928 new licenses, and were issued over 3800 U.S. patents, largely as a result of university-industry technology transfer initiatives. By comparison, in 1991, ninety-eight universities garnered a mere $123 million in gross licensing income. These funds provide needed revenue to university coffers, stimulate economic growth in surrounding municipalities, and provide beneficial products to consumers here and abroad.

But these achievements have not come without a cost to academia. Historically, universities have existed for the purpose of promoting inquiry and advancing the sum of human knowledge. To further these goals, university researchers would publish and present their scientific findings as soon as possible in accordance with communal norms promoting the prompt and open sharing of data. But today, academic researchers are being encouraged by technology transfer offices (“TTOs”) and industry sponsors to delay publishing and presenting their work until after filing a patent application and sometimes even longer than that. In addition, the growth in patent-related litigation involving universities and the much-hyped “tragedy of the anticommons” in the patenting of basic research tools are both costs attributable, at least in part, to technology transfer initiatives. While not amenable to precise quantification, the stifling of discourse and the erosion in the norms of sharing and colloquy historically associated with the scholarly enterprise are costs that must be balanced against the technology transfer gains.

Both the impressive numbers and the negative side effects are usually traced to the 1980 Bayh-Dole Act, which allows universities to elect ownership of inventions developed with federal funds, enabling them to offer exclusive licenses to companies interested in commercializing the inventions. The impetus for Bayh-Dole was a belief that the ivory tower was stuffed with useful technologies that could meet societal needs and stimulate economic progress if appropriate incentives—for example, exclusive rights—could be provided for private industry to commercialize them. Although not without critics, Bayh-Dole is widely seen as a success, and many foreign countries are implementing changes to their laws to mirror its policies.

Bayh-Dole and other enabling legislation are evidence of a congressional desire to facilitate technology transfer between universities and industry by using patent policy, with the ultimate goal of benefiting the public. But luring academics into this brave new world of patents and royalties has created some unintended side effects. For example, university research often progresses in stages, and the traditional model of scholarly discourse involves the presentation and publication of research conclusions and insights at those various stages. Yet the rigid patent novelty rules directly conflict with this model by requiring an inventor to file a patent application either before or within twelve months of exposing the invention to the public (depending on the country) to avoid losing the right to obtain a patent. These rules constrain researcher behavior in ways that are not conducive to academic discourse.

The unforgiving nature of patent novelty rules encourages a culture in which the dissemination of even very early-stage research, sometimes no more than a proof of concept, is delayed while a provisional patent application is prepared by the university TTO. As a result, secrecy is on the rise among academic researchers, particularly in the life sciences, with many university scientists choosing to limit or delay disclosures of their work in order to participate in the patent/technology transfer arena. For example, in 1966, 50% of surveyed experimental biologists felt safe in sharing information on current research with others; only 26% felt that way by 1998. In a recent study of geneticists, 35% perceived academic scientists as somewhat or much less willing to share information and data.
than a decade ago. Also, 58% reported adverse data withholding effects on their own research, and 56% reported adverse data withholding effects on the education of students and post-doctoral researchers.

While these statistics are troubling, other judicial, legislative, and commercial developments point toward an even bleaker future for academic discourse in the sciences. The recent decision by the Court of Appeals for the Federal Circuit in In re Klopfenstein seems sure to result in a further stifling of scholarly discourse prior to the filing of patent applications. There, the court expanded the scope of patent-invalidating prior art by broadly interpreting the phrase “printed publication” to include even ephemeral scientific poster presentations. The decision is significant because previous caselaw had required the distribution of at least some copies or the indexing and cataloging of at least one physical copy of a reference before such information would be considered patent-defeating prior art. On the legislative front, recently introduced patent reform measures, which include the creation of a “winner takes all” race to the patent office and the elimination of the best mode requirement, promise a further deterioration of the traditional sharing norms of university researchers while offering little if any concomitant benefit to this group of inventors. Moreover, Emory University’s recent announcement of its $540 million sale of intellectual property, considered to be the largest such sale in the history of American higher education, is likely to fan further the flames of interest in technology transfer initiatives at other institutions hoping to obtain new funds for various endeavors.

Much has been written on the myriad problems associated with the Bayh-Dole Act and the over-zealous patenting, litigation, and licensing practices of some university TTOs, along with the resulting access issues for upstream research tools, increased secrecy among university scientists, and more. To address these perceived problems, several commentators have called for reformation of the Act, as well as other changes to the patent system, such as heightening the subject matter and utility standards and creating a statutory experimental use exception to patent infringement. These proposals could, if implemented, improve some aspects of the current university patenting regime. Even if enacted, however, such reforms likely would have little, if any, effect on the increase in secrecy among academic researchers because they do not address the underlying causes of that problem.

I contend that a more promising mechanism for addressing the deterioration in disclosure norms in academia would be to build flexibility into the novelty rules of U.S. and foreign patent systems. This would tailor the patent system to accommodate the needs, values, and realities of academic enterprises, and would permit academic researchers more freedom to share publicly their results. Surprisingly little, if any, real attention has been focused on modifying these rules that, along with restrictive terms in industry sponsorship agreements, are at the root of the increased secrecy permeating academia today. Twenty-five years after the passage of the Bayh-Dole Act, patents and technology transfer are firmly entrenched in academia, but instead of being a simple aid to the dispersion and implementation of university discoveries, patent rules too often are dictating the pace, form, and scope of discourse and sometimes even the direction of the research itself. In a society that values the public benefits created both by prompt and open scholarly discourse and by the patenting of commercializable inventions, these developments are particularly troubling. In the interest of the public good, researchers should not have to choose between engaging in early-stage academic discourse and obtaining proprietary rights.

I suggest that to begin reversing the observed deterioration in disclosure norms, flexibility must be built into the patent system so that patents can facilitate, not control, the academic knowledge dissemination enterprise. In particular, I advocate the creation of an opt-in extended grace period that would provide more time for academic researchers to publish and present early-stage research before having to file a patent application. Such an extension, coupled with early application publication, would allow researchers to engage more fully in traditional academic discourse while retaining the ability to obtain the proprietary rights necessary for commercialization of their inventions. Importantly, this kind of extension...
also would provide early disclosure of discoveries for other scientists to build upon.

Part I of this Article provides a context for discussing issues relating to academic discourse and proprietary rights by highlighting key changes in the historical relationship between the academy and the public good prompted by the intrusion of proprietary rights. Part II then considers the impact of changes in patent law and policy on scientific discourse in the academy. It looks first at positive benefits created by the changes and then at several of the costs engendered by the patent and technology transfer boom within U.S. universities in the twenty-five years since the enactment of Bayh-Dole. Proposals for putting patents in their proper place are the focus of Part III. This Part proposes the enactment of a statutory amendment designed to ameliorate the effects of patent prior art rules on the dissemination of early-stage university research by allowing university researchers the option of an extended prior art grace period in exchange for immediate application publication. This proposal aims to increase prompt and full academic discourse, while balancing a researcher’s ability to obtain patent protection with third-party needs for certainty regarding publicly available information. Part III also addresses controversial aspects of the proposals, including their relation to current patent reform and harmonization efforts under consideration in the United States and abroad. The Article concludes that for norms of scientific scholarly discourse to regain traction in the academy, patents must move out of the limelight and into the supporting role that is their proper place.

**Bagley Bibliography**

**Articles**


**Publications and Shorter Works**


BIBLIOGRAPHY

WORKS IN PROGRESS

*Illegal, Immoral, Unethical ... Patentable? Issues in the Early Lives of Inventions*


Two broad, related themes cut across Greg Mitchell’s scholarship. The first is that legal theory and policy should be informed by sound empirical research, but the limits of an empirical approach should be acknowledged and dealt with forthrightly. The second is that human thought and behavior, including reaction to legal rules, vary across individuals and are influenced by context, which makes generalizing about thought or behavior from one context to the next quite perilous. Both of these themes reflect Mitchell’s education as a social psychologist as well as a lawyer.

Mitchell became interested in social psychology as an undergraduate while working in the lab of David Schroeder, who studies public goods consumption. He came to realize, through this work and by conducting his own experiments, that social-psychological research could be used to analyze the causes of social and political disputes.
was intrigued and decided to pursue graduate studies in psychology at UC Berkeley.

Mitchell worked extensively with Philip Tetlock, whose research has shown that holding decision-makers accountable can dilute or magnify a variety of psychological biases that were assumed to be immune to changes in social context. Tetlock not only added to Mitchell’s store of knowledge, but he also had a profound influence on how Mitchell approaches every scholarly question. Tetlock emphasized the complexity of empirical questions and the need to approach them from a number of different theoretical perspectives. He also stressed the need to test empirical theories across a range of settings and with a range of subjects in order to identify robust theories of human behavior.

Mitchell decided to enroll in law school after working with another social psychologist, Tom Tyler. Tyler, building on seminal research by John Thibaut and Virginia Law’s own Laurens Walker, has demonstrated that perceptions of procedural justice, and not just material economic considerations, greatly affect reactions to authoritative decisions and the perceived legitimacy of authority systems. Mitchell’s work with Tyler, along with Tetlock’s emphasis on a deep understanding of a topic, convinced Mitchell that he should enroll in law school at Boalt Hall while pursuing a psychology Ph.D. so that he could gain a better understanding of the legal theories and issues that he was studying from an empirical, psychological perspective.

Mitchell’s legal education turned out to provide more than he had bargained for. Not only did his legal studies convince him that the study and practice of law could be every bit as challenging and rewarding as academic research within psychology, but he became convinced that a psychologist could pursue an academic career within a law school setting given the growing acceptance of interdisciplinary research within legal theory. Accordingly, after clerking and practicing civil litigation for a number of years in Nashville, Tennessee, in 2000 Mitchell returned to academia in a law school rather than a psychology department.

Mitchell’s timing could not have been better, for the movement that has come to be known as behavioral law and economics had just begun to gain a wide audience within the legal academy. Scholars within this movement were making considerable use of psychological research on judgment and decision-making that Mitchell knew well. To Mitchell’s dismay, however, much of the scholarship within behavioral law and economics portrayed this psychological research as if it provided general laws of thought and behavior rather than findings that were conditional on the setting, characteristics of the subjects, and the particulars of the task at hand. Hoping to help change the terms of the debate that was developing between the law and economics and behavioral law and economics camps, Mitchell’s first two major works as a law professor—“Why Law and Economics’ Perfect Rationality Should Not Be Traded for Behavioral Law and Economics’ Equal Incompetence,” 91 Geo. L. J. 67 (2002), and “Taking Behavioralism Too Seriously? The Unwarranted Pessimism of the New Behavioral Analysis of Law,” 43 Wm. & Mary L. Rev. 1907 (2002)—were companion pieces that examined in detail the psychological research and methodological and normative assumptions that underlay behavioral law and economics scholarship.

As Mitchell observed, scholars working within behavioral law and economics did not simply challenge the assumption, central to traditional law and economics, that individuals act rationally. They replaced this assumption with another: that individuals fall prey to systematic biases and errors in judgment and decision-making across many situations. In so doing, according to Mitchell, these scholars were misreading the empirical research from psychology and behavioral economics on rational behavior. As Mitchell explained, the new “equality of incompetence” view propounded in behavioral law and economics overlooked substantial empirical evidence that people are not equally irrational and that situational variables exert an important influence on the rationality of behavior.

In the *Georgetown Law Journal* paper, Mitchell extensively reviewed the empirical evidence on individual and situational variability in rational behavior to demonstrate that the assumption of uniformly imperfect rationality found in behavioral law and economics was no more plausible.
than the assumption of uniformly perfect rationality found in law and economics. In the William and Mary Law Review paper, Mitchell examined the internal- and external-validity limitations on psychological research, which in turn counsel caution on the part of courts and legislators before they adopt the views advocated by behavioral law and economics scholars. In both papers, Mitchell argued that the most one can conclude from existing research is that the behavior of most individuals lies somewhere between the extreme poles of perfect rationality and equal incompetence, a location that makes general theory development difficult. Rather than seek a general model of legal judgment and decision-making, Mitchell advocated a contextualist approach that seeks to identify the conditions under which irrational behavior is most likely to occur and be remedied through education, incentives, reconfiguration of the judgment or decision task, or perhaps some more heavy-handed form of intervention. This contextualist approach illuminates specific ways that the legal system can foster rational behavior and counter irrational behavior.

In subsequent work, Mitchell has continued to develop the argument that behavioral law and economics should be focused on seeking solutions to specific problems rather than attempting to formulate a general model of behavior to compete with law and economics’ rational actor model. In “Tendencies Versus Boundaries: Levels of Generality in Behavioral Law and Economics,” 56 Vand. L. Rev. 1781 (2003), Mitchell debated Professor Robert Prentice over the proper lessons to draw from empirical research on irrationality. Mitchell, not surprisingly, argued for a modest approach to revising the law’s assumption of rationality, as compared to the bolder approach argued for by Professor Prentice. Mitchell contended that there has been too great an emphasis on finding and describing behavioral tendencies toward irrationality, without due regard for the boundary conditions on these supposed tendencies. As a result, much of the interesting and important information about the constraints on rational versus irrational behavior is consigned to ceteris paribus clauses and treated as “noise” that should be controlled and ignored rather than elucidated and understood.

In “Mapping Evidence Law,” 2003 Mich. St. L. Rec. 1065, prepared for a symposium on rationality in evidence law, Mitchell argued that empirical legal researchers should seek to map behavioral regularities in discrete legal contexts rather than develop a broad theory of legal judgment. Mitchell then proposed a set of key research questions for scholars interested specifically in evidence law, which emphasized the need to gather information, using a multi-method research strategy, about the practical significance and superability of psychological biases exhibited by judges and jurors.

In “Government Regulation of Irrationality: Moral and Cognitive Hazards,” 90 Minn. L. Rev. 1620 (2006), Jonathan Klick and Mitchell discussed the costs of using government policy to overcome irrational behavior. First, if preferences and biases are endogenous to institutional forces, then paternalistic government regulations are likely to perpetuate and even magnify some irrational behaviors. Second, they showed that it will sometimes be more efficient to invest resources in debiasing rather than to change legal regulations, and sometimes it will be most efficient to do nothing at all in light of the natural variation in irrational propensities. In a similar vein, in “Libertarian Paternalism Is An Oxymoron,” 99 Nw. U. L. Rev. 1245 (2005), Mitchell showed that Professors Sunstein and Thaler’s “libertarian paternalism” approach to irrationality regulation suffers from the common problem of assuming too much permanence and pervasiveness in irrational tendencies and ignores less intrusive forms of intervention that may help individuals overcome their biases and errors.

Recently, Mitchell has turned his attention to the use of empirical research on stereotyping and prejudice to develop prescriptions for antidiscrimination law. Innovations in the measurement of unconscious intergroup bias, and evidence of possible widespread biases operating at the unconscious level, have invigorated attacks on the intentionality requirement within antidiscrimination law. Mitchell questions whether the science can support the weight of the new normative arguments. In “Antidiscrimination Law and the Perils of Mindreading,” 67 Ohio St. L. J. 1023 (2006), and “Calibrating Prejudice in Milliseconds,” 71 Social
Psychology Quarterly 12 (2008), Mitchell and Philip Tetlock, who have continued to work together, argue that there are many open questions about the new measures of unconscious, or implicit, bias, including questions about the psychometric foundations and reliability of these measures and their ability to predict discriminatory behavior under realistic workplace conditions. As a result, Mitchell and Tetlock argue that it is premature to use this new research as legislative authority or litigation evidence. In a series of in-progress projects, Mitchell and colleagues from psychology are seeking to answer a number of the open empirical questions about unconscious bias using both modeling and re-analysis of data from prior psychological experiments.

In his most recent paper, based on a lecture at McGeorge School of Law (“Second Thoughts,” McGeorge L Rev. (forthcoming)), Mitchell considers how both behavioral law and economics scholarship and the new antidiscrimination law scholarship focus on biases in judgment and decision-making that often arise at the level of first-order thoughts. This scholarship tends to assume, moreover, that individuals are largely incapable of overcoming these first-order thoughts. Mitchell challenges this assumption and discusses how initial thoughts are often overridden by second-order thoughts, which breaks the assumed linkage between first-order biases and biased outputs. He also discusses how the law may be used to promote self-correction to prevent biased judgments, decisions, and behavior.

The critical aspects of Mitchell’s work have received considerable and justifiable attention because Mitchell’s has often been the first voice in dissent to prevailing trends. Equally important, however, are Mitchell’s positive contributions regarding strategies and methods for dealing with empirical uncertainties. In “Case Studies, Counterfactuals, and Causal Explanations,” 152 U. Pa. L. Rev. 1517 (2004), excerpted below, Mitchell considered the use of counterfactual thought experiments to develop causal explanations for significant legal events. Mitchell explained the limitations of this methodology, but he also argued for its usefulness and necessity in situations where policy formation cannot await the results of systematic empirical studies. Mitchell therefore developed a set of normative criteria to guide the use of counterfactual thought experiments and the information they provide.

In “Implicit Prejudice and Accountability Systems: What Must Organizations Do to Prevent Discrimination?,” 28 Research In Organizational Behavior (forthcoming), which also is excerpted below, Tetlock and Mitchell likewise begin with the recognition that pressing societal issues often cannot wait on the slow process of scientific research to sort out who is right from who is wrong. They accordingly propose a novel approach to the resolution of scientific disputes and illustrate its use in the context of the debate over whether laboratory findings of unconscious bias predict discrimination in organizational settings. In this “adversarial collaboration” approach, theorists from competing camps would engage in jointly-designed research and would publicly commit, ex ante, to standards for evaluating the products of the research. The hope is that this method could be used to avoid protracted stalemates among social scientists, which would enable employers and regulators to obtain important information on the possible causes of, and solutions to, inequalities in the workplace.

In a relatively short period of time, Mitchell has emerged as one of the most thoughtful, rigorous, and provocative participants in debates over the use of empirical studies in law and legal scholarship. It has taken him even less time to become one of the most valued members of the Virginia faculty, which he joined just two years ago. A popular teacher and terrifically engaged colleague, Mitchell exemplifies the sort of inquiring, skeptical mind shared by both successful lawyers and scholars alike.
EXCERPTS

Case Studies, Counterfactuals, and Causal Explanations


Many Legal Scholars Mark the Fall of Enron a Momentous Event in Our Legal and Economic History ... [And] Offer a Wide Range of Explanations for Enron’s Demise.... These Enron Post-Mortems Necessarily Involve Inferences about the Causes of Enron’s Collapse, for Any Diagnosis of the Conditions Leading to the Corporate Failure or Any Prescription to Prevent Future Failures Requires a Set of Beliefs about the Causes of Past Failures. Even Broad Forecasts about the Historical Significance of Enron Require a Set of Beliefs about How Past Events Will Alter Future Events, That Is, a Set of Beliefs about Causal Relations in the World. ... Whichever Causal Story Is Chosen, the Point of the Storytelling Is the Same: To Influence Debate about Whether and How the Law Should Be Changed in Light of the Causal Factors Allegedly Giving Rise to Enron and Other Recent Corporate Scandals.

Within These Stories, an Important but Little Discussed Transformation Occurs at the Point Where the Enron Story Is Tied to the Larger Policy Debate: The Scholar’s Specific Explanation for the Isolated Event Is Transformed into a General Explanation for a Class of Potential Events and Becomes a Prediction of Future Problems (Undisclosed Derivatives Led to Enron’s Failure and Will Do So in Other Cases, Technical Accounting and Disclosure Rules Permitted Too Much Earnings Management in Enron and Are Too Permissive in General, Too Much Deference by the Board to Management Caused Harm in Enron and Is Likely to Do So Elsewhere, and So On). In Other Words, the Authors Switch from Singular to General Causal Accounts. In These Assertions the Specific Explanation Becomes Endowed with Law-Like Properties and the Causal Relation Posited for the Enron Matter Is Presumed to Hold in Other Corporate Settings as Well, with Little or No Demonstration of the Applicability of This Explanation for Other Events Occurring Under Different Circumstances. Although Many Scholars Widely Apply the Conclusions They Draw from Enron, the Reader Is Given Little More than Bald Assertions or Limited Anecdotal Evidence to Support the Generalizations.

For the Scholar Inclined to Make Policy Recommendations, This Inductive Leap Must Occur Because, While Singular Causal Stories about Specific Events Are of Great Interest to Trial Judges, Juries, and the Parties Involved in a Particular Lawsuit, Such Specific Explanations Alone Are Likely to Be of Little Interest to the Positive Lawmaker, Who Enacts Laws with Broad Behavioral Implications Beyond the Specific Case. Unless the Causal Explanation Extends Beyond Enron to Provide a More General Explanation of How Certain Behaviors and Corporate and Regulatory Failures Are Causally Related, Then Specific Explanations for Enron Say Nothing of Importance to Lawmakers. Stated Differently, If Enron Is an Aberration or the Product of Unique Forces unlikely to Be Seen Again, Then Why Bother with “Sweeping Legal Reforms” and Why Not Focus Instead on Criminal Punishment, Civil Liability, and Reparations for the Players in the Enron Case Alone?

Serious Problems Exist with the Evidence Relied on by the Enron Scholars and the Inferences These Scholars Draw from This Evidence. Because the Evidence Chosen Consists of Only One Case Involving a Single Outcome, It Is Not Possible to Use Experimental, Quantitative, or Comparative Case Study Approaches to Discern Causes of This Outcome. Instead, the Enron Scholars Must Rely on Counterfactual Thought Experiments to Develop Their Causal Explanations for Enron’s Collapse. Counterfactual Thought Experiments, However, Suffer from a Serious Methodological Underdetermination Problem and a Variety of Other Inferential Shortcomings. [Further], Many of the Enron Scholars Do Not Assume the Stance of Skeptical Consumers of Historical Data Who Question the Accuracy and
completeness of their sources. Instead, news stories and the Powers Report are treated as authoritative factual sources, with little independent effort to confirm the sources' accuracy or find converging evidence. These factors, together, raise serious doubts about the internal validity of the causal stories being told about Enron.

The quality of an argument dependent on a counterfactual thought experiment should be assessed along at least six dimensions: (1) the transparency with which the evidence-selection, causal inference, and generalization processes are described; (2) the “counterfactuality” of the proposed causal antecedent; (3) the degree to which the favored causal hypothesis has survived confrontation with competing hypothesis; (4) the theoretical and statistical reasonableness of the counterfactual propositions in light of known event probabilities and behavioral evidence; (5) the cotenability and counterfactual minimalism of the propositions in the thought experiment, with particular attention to the complexity of the system in which the counterfactual mutations occur; and (6) the projectibility of the results of the thought experiment.

Considering the Enron stories along these dimensions reveals important ways that the Enron scholars could improve their analyses. Perhaps most troubling is the lack of transparency and specificity in many of the causal stories, both because this requirement is relatively easy to satisfy and because failure to satisfy this requirement makes it difficult to engage in any serious evaluation of the story’s merit along the other dimensions. In counterfactual analysis, much of the necessary information is private and not capable of independent discovery by the reader, such as the precise rewrites of history undertaken in the thought experiment and the evidence selection procedures utilized in gathering information for the factual component in the causal story (e.g., were some news accounts of Enron rejected and, if so, why?; was any effort made to gather fact sources from diverse sources?; what fact-checking occurred, if any?). Moreover, it should first be the duty of the scholar producing the causal story, and not the reader, to find and produce evidence to support the statistical reasonableness of a proposed causal antecedent and any generalizations from Enron to other cases. The very act of writing down the details behind the creation of the causal story and disciplining oneself to make public one’s evidence in support of inferences contained in the causal story are likely to lead to improvements in the story.

Perhaps most problematic for the Enron scholars who use counterfactual reasoning from Enron to support their arguments for legal or market reform is the weakness of these arguments when measured on the cotenability/counterfactual minimalism dimension. Any Enron story used to justify a systemic reform, whether it be one as extensive as the broad move from legal rules to standards ... or a more meager reform such as the requirement that accounting firms not be allowed to provide both auditing and consulting services to a client ... suffers on this dimension because any systemic reform in a system as complex as the one in which Enron was embedded is likely to have so many unanticipated and unintended effects that it becomes difficult to follow the causal chain from the reform to the prevention of Enron and other business failures.
Implicit Prejudice and Accountability Systems: What Must Organizations Do to Prevent Discrimination

28 Research in Organizational Behavior (forthcoming), with Philip E. Tetlock, University of California, Berkeley

Discussions of what employers must do to prevent discrimination have a ritualistic flavor. There are the textbook recitations of best practices that Human Resource managers must implement; the latest court decisions that the legal department must peruse for new prophylactics; the utilization and adverse-impact analyses that the Compliance branch of Human Resources must submit to regulatory agencies; the validation procedures that psychometricians must apply to all selection methods; and the diversity guidelines that trainers must follow to instill egalitarian values in the workforce.

The entire topic could be—but should not be—dismissed as hopelessly atheoretic. Lurking beneath the layers of bureaucratic posturing is a volatile mix of psychological and political disputes over the potency of prejudice and where society should set its thresholds for judging the adequacy of defenses against discrimination—and distinguishing sham from true compliance with civil-rights laws.

We unpack these disputes here. Our starting point is the long-running controversy over the extent to which the nation has overcome its painful history of racial prejudice. We draw on Festinger’s theory of cognitive dissonance and Lakatos’s philosophy-of-science analysis of research programs to capture the ideological rhythms of this epochal debate, which in its starkest form pits “statist interventionists” (who stress the lingering power of racism and the need for countervailing legal pressure to level the playing field) against “market purists” (who stress the power of competition to eliminate irrational biases). We show how each side has built up a seemingly inexhaustible reserve of auxiliary hypotheses that allow it to explain away the favorite facts of the other side.

This stalemate has been rattled by new entrants who have imported reaction-time techniques from cognitive psychology to measure implicit forms of prejudice and stereotyping that, they insist, self-report surveys fail to detect and that bias the judgments of most people most of the time. A subset of these researchers has forcefully argued—in law journals and in the national media—that work on implicit bias has now reached a level of maturity that justifies extrapolation to the real world. A further subset of scholars has aggressively applied implicit-prejudice doctrines to live legal disputes via expert-witness testimony. These arguments offer double-barreled indictments of American workplaces: a micro-cognitive critique that challenges the sincerity of the tolerant attitudes that many people in early 21st-century America claim to possess (creating the implication that managers are far more biased than they realize or are willing to admit) and a macro, neo-institutionalist critique that challenges the sincerity of organizational efforts to check prejudice (creating the implication that companies are far less effective in checking discrimination than they realize or are willing to admit).

We explore whether the new entrants have indeed tipped the debate decisively in favor of a strong interventionist position that challenges traditional notions of meritocracy and holds managers accountable for numerical quotas in personnel decisionmaking. We show that the new entrants have yet to make a compelling case. Specifically, we identify three persisting unknowns concerning the power of implicit bias to cause workplace discrimination: (a) construct-validity disputes over whether reaction-time differentials on measures such as the Implicit Association Test (IAT) tap into implicit bias as opposed to alternative, more benign constructs such as sympathy for, or unfamiliarity with, minority groups; (b) psychometric disputes over what it means to score as implicitly prejudiced and what must be shown to justify company-wide attributions of prejudice as explanations of disparate outcomes; (c) external validity disputes that revolve around the many differences between lab studies of
implicit bias and early 21st century workplaces and what must be shown to allay concerns about generalizability. The net result is a mis-match between empirical accomplishments and policy prescriptions, between how little researchers know about the power of organizational checks against prejudice and how confidently some scholars have dismissed a host of equal employment opportunity efforts as Potemkin-village cloaks for discrimination.

Two obstacles impede resolution of disputes over implicit bias: (a) the absence of shared standards of evidence for gauging the probative value of facts; (b) the absence of shared standards of proof for balancing false-positive (holding a non-discriminator liable) and false-negative (not holding a discriminator liable) classification errors.

The absence of shared standards of evidence makes it easy for each side to neutralize dissonant findings. Even if implicit-prejudice researchers lost all the key arguments over the validity of implicit measures, they could invoke a litany of arguably legitimate escape clauses: abandoning the IAT for “better” measures of implicit bias, disparaging criterion variables that tests fail to predict as insensitive to subtle hostility, or criticizing independent variables that squelch prejudice as loaded with demand characteristics. And if critics of implicit bias lost the same arguments, they could invoke their own escape clauses: faulting lab experiments that find bias for failing to capture real-world variables that check bias, and faulting field studies that find bias for ignoring objective differences in group performance.

The absence of shared standards of proof further complicates hypothesis testing, making it easy for each side—when they do agree on the facts—to disagree over the policy significance of those facts. Statist interventionists see more prejudice because they rely on expansive definitions that treat a vast range of everyday behavior as evidence of prejudice, even eye-blinking. And market-purists see less prejudice because they rely on restrictive definitions that require clearly disparate treatment of almost identically-situated employees. Either way, each side is free to inflate or deflate its estimates of prejudice in response to the same facts.

We conclude that the usual methods of scientific dispute resolution are unlikely to work as long as each side can: (a) dodge troublesome data by retreating into a protective shell of auxiliary hypotheses; (b) count on the backing of a community of co-believers dedicated to defending the hard-core tenets of its worldview. Moreover, one need not accept the strongest indeterminacy form of our argument to agree that reliance on the usual methods has proven a painfully slow process for courts, regulators, and legislatures that need clear scientific answers—now—to questions about the drivers of inequalities.

We propose an unusual approach to break the impasse—adversarial collaboration—that calls on the clashing camps to: (a) reflect on the dynamics of the debate; (b) identify pivotal empirical points on which they can either agree or agree to disagree; (c) specify research designs on which they can base Bayesian bets about the potency of implicit bias; (d) commit themselves to threshold-of-proof statements that specify how low or high implicit-prejudice effect sizes would have to fall or rise to induce them to change not just their psychological assessments but also their policy stands.

There is room for disagreement over how to achieve the epistemic goals of adversarial collaboration. But there is no room for compromise in our philosophy of science over the goals. Any research program that rejects the Socratic soul-searching prescribed by adversarial collaboration fails the classic litmus tests for science—and should be suspect from the legal system's perspective. This latter point is no fine point: social science experts have woven implicit-prejudice arguments into their testimony in dozens of class-action cases over the last decade, and some courts have accepted these arguments despite the many unresolved questions. For better or for worse, our science is literally, not just metaphorically, on trial.
BOOKS AND BOOK CHAPTERS

ARTICLES, REVIEWS, AND COMMENTS
Philip E. Tetlock & Gregory Mitchell, “Implicit Bias and Accountability Systems:"

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“A Cross-Sectional Study of Cognitive and Non-Cognitive Predictors of Legal Reasoning and Law School Performance” (with David Z. Hambrick, Michigan State University Department of Psychology)
John Setear’s scholarship focuses on international law as a sub-set of politics. Some of his earlier work concerns itself purely with the operation of international law among nations, especially with the laws and policies relating to treaties. His more recent work, by contrast, examines the complex interplay among international law and the three branches of the federal government. Regardless of the context, however, Setear divides his efforts into the wholesale demolition of the long-standing theories of others and the brick-by-brick construction of a less ideological, more logically defensible, and more empirically grounded view of international legal rules.

Setear’s first article in the field was “An Iterative Perspective on Treaties: A Synthesis of International Relations Theory and International Law,” 37 Harv. Int’l L.J. 139 (1996). There, he argued against the traditional view that treaties, and the legal process that creates them, rest on notions of consent or

Setear’s iterative perspective on treaties emphasizes the contingent nature of cooperation.
procedural or substantive legitimacy. These values, Setear argued, cannot explain a number of important features in either treaties or the process that leads to their creation.

Setear advanced an alternative, “iterative” perspective that proved to be both parsimonious and predictive. The iterative perspective builds upon the international-relations theory known as “Institutionalism,” which in turn derives from an analysis of the classic “Prisoner’s Dilemma.” The Prisoner’s Dilemma is a metaphor used by game theorists to elucidate the incentives facing a set of parties who could all benefit from cooperation with one another, but who can each benefit even more by failing to cooperate so long as those around them blithely hew to the collective endeavor. Conversely, each party would be worse off if they alone cooperate while others defect. For a variety of logical (though not behaviorally unassailable) reasons, theorists in a variety of disciplines have assumed that parties facing a single round of the Prisoner’s Dilemma will all fail to cooperate, despite the tantalizing prospects of gains from collective action. Then-recent research had opened the possibility, however, that if parties face a series of interactions, then a stable pattern of cooperation may evolve. In this view, such iterations—along with the ability to identify and remember other participants and their previous decisions—are a necessary (though not sufficient) condition for cooperation in the face of a Prisoner’s Dilemma.

Setear’s iterative perspective on treaties emphasizes the contingent nature of cooperation, the benefits of allowing nations to choose from among multiple and sequential levels of participation in the treaty process, and the particular legal contours of the rules on casting off treaty obligations already undertaken. Setear’s close analysis of both the histories and the texts of a variety of particular treaties showed an impressive consistency between the predictions of the iterative perspective and the realities of international practice.


The focus of “Responses to Breach” is on the degree of predictive fit between a variety of rational-choice theories drawn from a variety of disciplines and the international legal rules governing the responses that one nation-state may legally take when another party breaches its obligations under a treaty initially binding them both. Setear divides the relevant rules into two broad categories. What he calls the the “rules of release” govern whether an initially compliant party may legally cease its own performance under an agreement breached by another party, while what he dubs the “rules of remediation” govern the degree of harm that the victim of a breach may inflict upon the breaching party.

The rules of release are moderately complex. For bilateral treaties, any breach of a “material” provision releases the other party from its obligations. For multilateral treaties, the breach of a “material” provision releases any party “specially affected” by the breach or releases all parties if the breach has a “radical effect” upon them all.

At a broad level, these rules are sensible from a rational-choice perspective. As described earlier, the incentives facing potentially cooperative parties in international politics often resemble an iterated Prisoner’s Dilemma. Simulation-oriented research implies that the optimal strategy for a party in such a situation is to mirror the behavior of an opposing party, but with a one-period time lag—to cooperate currently if the other party cooperated in the previous period, and to defect currently if the other party defected in the previous round. The law of treaties in fact implicitly imposes this strategy on treaty parties. If one party defects by breaching, then, under the rules of release, the other party may defect in rough equality by eschewing its own obligations under the agreement. If, in contrast, one party has cooperated by hewing to its obligations in the
previous period, then the general law of treaties requires the other party to cooperate in the current round by continuing to obey its own treaty obligations.

Furthermore, the theory of public goods, which dovetails with theories emphasizing the Prisoner’s Dilemma as a metaphor for collective action, holds that a cooperative agreement becomes more difficult to reach and enforce as the number of parties involved increases. Consistent with this view, the rules of release excuse a party from a bilateral treaty simply upon a showing of material breach, while those rules require additional conditions to release a party from a multilateral agreement. Setear’s analysis thereby tends to show that the rules of release are consistent with rational-choice theory at a relatively high level of abstraction.

At a greater level of precision, however, the rules of release are, according to Setear, difficult to reconcile with traditional rational-choice theories. As the rules of release are traditionally interpreted, for example, the magnitude of the breach is irrelevant so long as the breached provision is “essential” to achieving the “object and purpose” of the treaty. From a rational-choice perspective, however, the magnitude of the benefits foregone as a result of the breach should be the central concern. Furthermore, the abandonment of a multilateral treaty involving three parties is, under the existing rules of release, no easier to obtain than release from a treaty obliging a hundred and three parties, whereas public-goods theory would impose a difficulty of release that varied (in rough proportion) with the number of parties involved.

The article similarly concluded that the rules of remediation are at best imperfectly consistent with theories of rational choice. These rules lead on average to the infliction of less harm on the breaching party than that suffered by the victim of the breach. But in the international political context, breaches are often possible to conceal and well-tailored punishments may not be readily at hand. Theories of rational choice would therefore argue that, in order to counter-balance the situations where the breaching party suffers nothing because of the breach, the rules of remediation should typically inflict a greater harm on the breaching party than the victim suffered.

Setear’s other 1997 piece, “Law in the Service of Politics,” builds upon “An Iterative Perspective on Treaties” to argue that Institutionalism is a promising theory but, as currently formulated by political scientists, importantly incomplete. Institutionalism shows promise because it explicitly provides a framework for examining international cooperation, in contrast to the dominant, anti-legal, “Realist” theory of international relations, which asserts that nations must focus all their attentions on a zero-sum struggle for their very existences. Nonetheless, as Setear shows, the actual specification of Institutionalism by political scientists is howlingly incomplete.

Recall that Institutionalism emphasizes the potential importance of iteration to international cooperation. As Setear pointed out, however, Institutionalists had made no real effort to define what counts as an “iteration,” nor did they identify when iterations actually occur – e.g., after the passage of a fixed interval of time; at the end of each of a series of summit meetings; each time a war ends? As Setear showed with a variety of concrete examples, the particular definition of “iteration” actually adopted is of more than abstract interest: different definitions of “iteration” can yield very different conclusions about international political events. Institutionalist theorists also took for granted that one party could easily tell when another participant has in fact acted cooperatively rather than uncooperatively, yet the real world of international relations is notoriously full of ambiguities resulting from linguistic barriers, cultural differences, and diplomatic double-talk. In short, the political scientists’ theory of iteration, while potentially useful, remained at an unhelpfully high level of abstraction.

As Setear went on to explain, however, these gaps in theory can be filled by studying international law, especially the ways in which treaties are created. The treaty process, with its various gradations of legal obligations unspooling over time—negotiation, initial consent via signature, final consent via ratification, and the potential for reducing national obligations via termination—provides a ready, objective set of iterations. The formality of some, though not all, of these stages also provides a rough but
ready indication of whether a party has in fact decided in that iteration to participate in a given treaty’s cooperative scheme (by consenting to its obligations). With literally thousands of treaties in existence, including those governing almost all prominent examples of multilateral cooperation, the treaty process is a potentially rich source of data to mine for those interested in the validity and refinement of Institutionalism.

In “Ozone, Iteration, and International Law,” 40 Va. J. Int’l L. 193 (1999), Setear took up the implicit challenge of “Law in the Service of Politics” and closely examined the series of treaties regulating the anthropogenic production of ozone-depleting substances. The resulting series of iterations within iterations—a sequence of progressively more stringent documents, each with its own set of phases for negotiation, signature, ratification, and potential termination—provided many bushels of easily measurable grist for the analytical mill. Setear was able to use the treaty process both to give more precise content to such previously fuzzy variables such as “iteration” and “cooperation,” and to offer empirical support for the iterative perspective. As he concluded, the ozone treaties, consistent with the iterative perspective, set up a self-reinforcing process that measurably led to extensive and ever-deepening cooperation.

Four of Setear’s more recent pieces retain his interest in constructing a consistent, defensible theory and empirics of international legal phenomena, but they emphasize the interface between international law and the U.S. Constitution rather than the operation of treaties in the purely international realm.

The first such piece was “The President’s Rational Choice of a Treaty’s Pre-Ratification Pathway: Article II, Congressional-Executive Agreement, or Executive Agreement?,” 31 J. Legal Studs. S5 (2002). Article II of the U.S. Constitution states that the President “shall have the Power, by and with the Advice and Consent of the Senate, to make Treaties, provided that two thirds of the Senators present and voting concur.” Despite the clarity of the prescribed pathway, however, presidents sometimes avoid Senate ratification by submitting the texts to a simple-majority vote of both houses of Congress or by avoiding Congress altogether with an Executive Agreement. As Setear points out, the Supreme Court, despite a number of opportunities, has never overturned the President’s choice of a pre-ratification pathway.

The President thus appears to face an entirely discretionary choice as to the relevant pathway. Yet presidents have still chosen the pathways involving legislative participation even when—as occurred most notoriously when UVA law alumus Woodrow Wilson submitted the Treaty of Versailles to the Senate—the result is a rejection of presidential wishes and a concomitant inability to bind the U.S. internationally to the treaty in question. Why, Setear asks, would a president take such a risk?

Setear’s answer is that the president can choose how to ratify a treaty but not how to implement it. Many treaties, especially important ones, require implementing legislation from Congress. A well-informed foreign audience that cared about actual implementation of a treaty would therefore be suspicious of a president who ratified a treaty with no sign that Congress was inclined towards implementing legislation. A successful presidential effort to obtain legislative approval before ratification provides the necessary, credible signals from the president that he has staked himself to the tenets of the treaty and that it will be implemented. Setear undertook a detailed comparison of the relevant characteristics of particular treaties and their typical pre-ratification pathways, and concluded that the underlying presidential choices were generally consistent with a signaling-oriented theory. For example, trade treaties are both especially likely to require conventional legislation for their eventual implementation and especially likely to see the president submit such treaties to both houses of Congress before their initial ratification.

Setear again explored the relationship between presidential discretion and the instruments of international law in “Treaties, Custom, Iteration, and Public Choice,” 5 Chi. J. Int’l L. 715 (2005). There, he concluded that, at least since World War II, the President has appeared to favor treaty law, rather than customary international law, as the method of instantiating international cooperative efforts. Given that treaty law is the more precise way to set out legal rules as well as to express national consent,
but that customary law is much easier for the President to control, Setear concluded that the executive branch seems inclined to favor expressive efficiency over the narrow promotion of its own power.

Setear’s next article addressed not only the interaction between international and domestic U.S. law but also, as in his earlier articles, both the purely international realm and the theories of political scientists interested in international cooperation. In “Can Legalization Last?: Whaling and the Durability of National (Executive) Discretion,” 44 Va. J. Int’l L. 711 (2004), Setear both applied and exploded a “legalization” framework set out in a series of articles by political scientists and legal academics focusing on the European Union and the World Trade Organization. These academics argue that international law and international institutions have become more centralized, formal, and legalistic. As Setear pointed out, however, the articles identifying this apparent trend commit the cardinal social-scientific sin of “selection bias,” i.e., the examined case studies reflect only a particular, unrepresentative slice of reality. Importantly, the omitted case studies represent the largest and longest-standing swath of international institutions.

One such institution is the regulation of international whaling. The organizational structure of that decades-long effort at international cooperation shows that the highly legalistic and significantly centralized systems of the European Union and the World Trade Organization are rare and recent developments. More common are the less legalized and less centralized forms of organization typified by the whaling treaties, which in turn show no tendency towards a more legalized institution even after more than fifty years of existence. Setear also argued that, within national governments, a less formal and centralized international structure favors the executive branch. A particularized examination of the history of the whaling treaties showed the persistence of its relatively non-legalized, executive-friendly form of cooperation despite huge changes in other aspects of the international regulation of whaling. In the United States, the Supreme Court itself thwarted Congress’ effort to cabin executive discretion in the levying of trade sanctions against nations violating the whaling treaties.

Setear’s two most recent articles on international law, excerpted below, each reflect an important part of Setear’s wide-ranging interests. In the big-picture “Room for Law: Realism, Evolutionary Biology, and the Promise(s) of International Law,” 23 Berkeley J. Int’l L. 1 (2005), Setear undertakes a detailed comparison between nature as viewed by the evolutionary biologist, on the one hand, and the supposed similarities of the international political system as viewed by the prominent, anti-legal, “Realist” school of international relations theory. Setear demonstrates that the latter’s arguments rest on a mixture of dubious, specious, and flatly incorrect analogies between selection pressures in nature and in international politics, and that there is thus ample room for law in international politics.

In the ground-level, domestically oriented “A Forest with No Trees: The Supreme Court and International Law in the 2003 Term,” 91 Va. L. Rev. 579 (2005), Setear undertakes painstakingly detailed readings of a set of Supreme Court cases from a single Term to assess the degree to which the Court relied on international law in its decisions. Despite the attention this issue has generated, and the alarm it has caused some, Setear concluded that the nation’s highest court was hardly in a rush to use international law in its decisions even when such rules were plainly at issue.

At bottom, Setear’s work seeks to explain why international law and international institutions look and operate the way that they do. Rather than rely on well-worn abstract principles and general theories, Setear is constantly searching for theories that are consistent with the way the parties involved in shaping international law and institutions actually behave. He brings this same level of curiosity and creativity to his courses, which year after year draw rave reviews from students who are delighted to have the opportunity to examine how the games of international politics and international law are played. In both his scholarship and his teaching, Setear remains guided by what ought to guide all who consider themselves academics: a search for the truth.
The supreme court's resolution of these seven cases should be deeply disappointing to anyone who hoped that the Court would embrace international law. The "principle" of international law endorsed in *Empagran* is so vague that even the least inventive U.S. courts should feel utterly unconstrained by it. *Olympic Airways* ignored the decisions of foreign courts with sufficient flagrancy to annoy even Justice Scalia, who has elsewhere advanced the arguably inconsistent principle that "the views of other nations, however enlightened the Justices of this Court may think them to be, cannot be imposed upon Americans through the Constitution." The Court resolved *Altmann* by treating it as a case about statutory interpretation and, in particular, about the retroactive application of statutes. As to the human-rights cases, the Court in *Sosa* sandwiched its crabbed interpretation of a substantive international legal question between an extensive journey of statutory interpretation (and historiography) and a laundry list of the various issues that the Court did not decide at all. The Court resolved *Padilla* and *Rasul* as purely procedural cases about the allocation within the federal system of jurisdiction over habeas corpus cases, although doing so in *Rasul* did involve the Court's interpretation of a treaty rather than only domestic law. The Court split so badly in *Hamdi* that the implications of the holding for courts below are difficult to divine, but all of the Court's opinions viewed the case as about statutory authority and executive discretion. No Justice saw *Hamdi* as raising an issue of international law that the Court needed to resolve. The Geneva convention, so potentially important given the facts of *Hamdi* and *Rasul*, and perhaps even *Padilla*, proved to be far from decisive in the Court's actual resolution of those cases.

Only *Sosa* and *Rasul*, therefore, deployed international law as a meaningful component of the Court's opinions; even then, *Sosa* took a repeatedly narrowing approach to international law, and *Rasul* implemented a traditional conception of sovereignty. One looks in vain for any expansionist approach to international law in any of the seven cases, but one may find repeated examples of the Court's cramping, ignoring, or defanging international law.

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**A Forest With No Trees: The Supreme Court And International Law In The 2003 Term**

*91 Va. L. Rev.* 579

... SOME OBSERVERS ... MUST HAVE BEEN CONCERNED, WHILE others must have been excited, that the Court's docket during the 2003 Term included full arguments in seven cases directly presenting questions of international law. Three—*F. Hoffman-La Roche v. Empagran*, *Olympic Airways v. Husain*, and *Republic of Austria v. Altmann*—focused on essentially commercial matters. *Empagran* addressed the scope of the Foreign Trade Antitrust Improvements Act ("FTAIA") and the Sherman Act; *Olympic Airways* decided the liability of an airline for the death of a passenger under the Warsaw Convention; and *Altmann* raised issues of the international law of expropriation, the immunity of a foreign sovereign from suit, and the degree of deference owed to the executive branch's determinations about the effect of litigation on U.S. foreign policy. Four other cases—*Rumsfeld v. Padilla*, *Hamdi v. Rumsfeld*, *Rasul v. Bush*, and *Sosa v. Alvarez-Machain*—involved issues of human rights. *Padilla*, *Hamdi*, and *Rasul* all concerned the status of individuals taken prisoner in the course of the war on terror; they thereby raised important issues of national security, deference to executive conduct in the war on terror, and the treatment of prisoners of war under the Geneva Convention. *Sosa* concerned a statute authorizing suits to redress "a tort ... committed in violation of the law of nations"—about as explicit an incorporation of international law into U.S. law as one could imagine. The stakes were high and the international components of the cases far more salient than in the cases from previous Terms referring to international law.
The Court’s actual resolution of the cases was highly traditional and domestically oriented. Every case except Olympic Airways struck the Court as presenting an important issue of domestic statutory interpretation; Olympic Airways was to the Court a straightforward reading of its own precedent. Altmann and the four human-rights cases each had an important jurisdictional element, which the Court resolved by reference to various doctrines of habeas jurisdiction and immunity; these cases all involved a potential conflict between the judiciary and the Executive, which the Court resolved (in favor of the judiciary in four of the five cases) by discussing traditional balancing of areas of expertise. Even when the Court was ineluctably confronted with an issue of international law, as it was in Sosa and Olympic Airways, the Court favored a common-law methodology over prospective rule-making—a choice that favors older, customary-law methodologies of making international law over the new, more threatening system of treaties and international courts. The Court was also more comfortable with old-fashioned issues about sovereignty than it was with new-fangled issues of international human rights.

The Court in these seven cases thereby stayed on familiar, domestic legal ground. It interpreted statutes, assessed jurisdiction, chastised the executive branch, and plumbed the minds of the Founders. The Court did not rush to incorporate international law into its jurisprudence despite the fact that, in contrast to the cases from the 2002 and 2003 Terms that had garnered so much attention, international law was often directly at issue. International law in the Court’s most recent Term proved to be an ignorable elephant in the room even if it may also have been a dog that didn’t bark.

Room for Law: Realism, Evolutionary Biology, and the Promise(s) of International Law

I argue in this article that the international system ... has ample room for law. I first elaborate upon a crucial, though sometimes implicit, assertion of the Realists that I call the “Selection Axiom.” Strong selection pressure in world politics forces states either to practice a law-free realpolitik or to perish. I then draw upon the selection-oriented theory of evolutionary biology to argue, in the main portion of the Article, that the Realists’ Selection Axiom is supported neither by logic nor facts. I conclude by arguing that the invalidity of the Selection Axiom leaves substantial room for international law in world politics.

My argument against the Selection Axiom has five parts. First, the Realists’ inference that low state extinction rates in the present are the result of high selection pressure on states in the past is fallacious. Low state extinction rates are at least as consistent with an international environment reflecting little or no selection pressure as they are with the Realist view. In fact, high state extinction rates would more conclusively demonstrate the existence of high selection pressure in the international system.

Second, an examination of relevant empirical evidence concerning state survival rates suggests that, contrary to the assertion of the Selection Axiom, selection pressure on states is in fact low. Births of states in the modern era far outnumber deaths—the antithesis of the Malthusian situation that one would expect in an environment of high selection pressure. Indeed, since 1945, state death has virtually ceased while state births have skyrocketed, and thus whatever selection pressures might once have existed would appear to have vanished.

Third, evolutionary biology teaches us that evolution towards higher adaptive fitness reliably occurs only in a population with a large number.
of individuals. The international environment, in contrast, involves an almost vanishingly small number of individuals (i.e., states) compared to natural populations. In small natural populations, random “genetic drift” is likely to be a powerful factor; analogously, the tiny population of states is one in which any number of factors besides a ruthless concern for state survival may be important.

Fourth, the vast majority of state deaths in the modern era occurred during one of two waves of “mass extinctions” in Europe, with a very low rate of state extinction at other times and in other places. Such a pattern—long periods of stasis interrupted by temporally and geographically intense flux—suggests what evolutionary biologists call a “punctuated equilibrium.” Natural extinctions that occur within the context of a punctuated equilibrium are typically more a matter of chance than of classical fitness. Similarly, the existence of a punctuated equilibrium in international politics implies that the demise of a particular state stems more from bad luck than from a state’s unwillingness or inability to conduct a foreign policy of law-free realpolitik.

Fifth, evolutionary biologists have concluded that sexual reproduction is a more adaptive mechanism than asexual reproduction when—but only when—environmental change is rapid and complex. If the relevant analogies between biology and international relations hold true—analogies that are admittedly somewhat difficult to draw with respect to reproduction—then high selective pressure in an international environment where change is rapid and complex should result in a method of state reproduction closer to sexual than to asexual reproduction. While state “reproduction” almost certainly occurs in an international environment of rapid and complex change, the most common method of state “reproduction” in fact appears much more closely akin to asexual reproduction. Evidence from the international environment is thus inconsistent with the expectation under the Selection Axiom that selection pressures would have pushed the relevant population (in other words, the set of nation-states) towards the fitter mode of reproduction (in other words, “sexual” reproduction).

From these multiple analyses of Realism as illuminated by evolutionary biology, I conclude that the Realists’ Selection Axiom rests on ground so unstable as to risk intellectual liquefaction. The Realist contention that low state extinction rates indicate high selection pressures is fallacious. Many more states have been born than have died. Analogies in the international system to the phenomena of genetic drift and punctuated equilibrium imply that fate—not fitness—is the most prominent determinant of survival in the state system. The less fit mode of reproduction actually dominates the international system. In light of all these arguments taken together, the Selection Axiom is untenable.

If the international system places minimal selective pressure upon modern states, then states may conduct their foreign policy free from the Realist shackles of a narrowly conceived national self-interest focused exclusively on power and survival. Of particular importance for those interested in international law, the irrelevance of the selection axiom makes room for a foreign policy that treats international law as a useful and significant constraint upon state behavior in international politics. Cooperation offers the promise of significant rewards, especially if measured in absolute terms, rather than the ultimate punishment of state extinction. States may make choices in foreign policy resulting from domestic politics, including the creation by rule-of-law democracies of “zones of law” in which international legal cooperation is a familiar, well-followed approach to international relations. Cooperation through international law, even if practiced only among relatively small groups of states, can lead to prosperity for its practitioners. The refutation of the Selection Axiom leaves a great deal of freedom for these ideas, all of which imply that states may employ and respect international law without hazard to their health.
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580 Massie Road
Charlottesville, Virginia 22903-1738
www.law.virginia.edu