



# IP Literature Watch

CRA Charles River  
Associates

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This newsletter contains an overview of recent publications concerning intellectual property issues. The abstracts included below are as written by the author(s) and are unedited.

## IP & Antitrust

### **A unified framework for RAND and other reasonable royalties**

Jorge L. Contreras (University of Utah – S.J. Quinney College of Law)

Richard Gilbert (University of California, Berkeley)

*Working Paper*

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2502066](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2502066)

The framework for calculating “reasonable royalty” patent damages has evolved over the years to a point at which, today, it is viewed by many commentators as potentially misleading and untethered from its original purpose. We offer a proposal to modify the framework for determining reasonable patent royalties that is based on recent scholarly and judicial analyses of standards-essential patents that are subject to commitments to license on terms that are reasonable and non-discriminatory (RAND).

Many standard setting organizations require owners of patents that are essential to a standard to license those patents on RAND terms, but typically offer little specific guidance to describe the royalty rates that satisfy this requirement. Litigated cases have applied the traditional Georgia-Pacific factors to assess RAND royalty rates with modifications to account for the circumstances of the RAND commitment. We propose that the reasonable royalty analysis should be conducted in essentially the same manner for all patents, whether or not they are encumbered by RAND commitments. We find considerable support for our approach in the historical development of U.S. patent law prior to the advent of the Georgia-Pacific test. Our approach focuses on the technical and economic characteristics of allegedly infringed patents and their incremental value to the overall product offering.

### **Activating Actavis: taking the story beyond the temporary duopoly**

Bruce H. Kobayashi (George Mason University School of Law)

Joshua D. Wright (Federal Trade Commission)

Douglas H. Ginsburg (George Mason University School of Law)

Joanna Tsai (Federal Trade Commission)

*Working Paper*

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2508094](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2508094)

This paper examines the economics of litigation and settlement of patent disputes arising from Paragraph IV ANDA filings under the Drug Price Competition and Patent Term Restoration Act (“Hatch-Waxman Act”) within the framework set out in *FTC v. Actavis*. Recent economic analyses of reverse payment

settlements are based upon a monopoly-to-duopoly model that assumes a single generic entrant. These analyses have been used to support antitrust rules that would enjoin reverse payments that exceed the cost of litigation. We demonstrate that the simple monopoly-to-duopoly models providing the analytical basis for the litigation cost benchmark for analyzing reverse payment settlements is incomplete. Our key institutional insight is the fact that entry by multiple firms follows the invalidation of a patent. Accounting for this critical institutional detail in a more generalized monopoly-to-duopoly model results in important and different implications for patent settlements, welfare, and application of the rule of reason pursuant to Actavis. The result is a broader settlement range than under the monopoly-to-duopoly model that yields robust incentives for the brand and generic entrant to settle the case. This broad settlement range makes attempts to regulate the size of patent settlements ineffective at achieving consumer welfare increasing settlements, or inducing the invalidation of “bad” patents through higher litigation rates. Incorporating multiple serial entrants also decouples the litigation-adjusted expected value of the patent and the consumer welfare standard, and further weakens the relationship between patent strength and the size of the settlement which has motivated numerous calls to deem presumptively unlawful all payments greater than anticipated litigation costs.

## IP & Innovation

### **University IP and the team production model: why change what's not broken?**

Samuel Estreicher (New York University Law School)

Kristina Yost (Jones Day)

*Beyond Intellectual Property: Comparative and Intellectual Aspects* (Shlomit Ravid-David et al. eds., Fordham Univ. Press, 2015, Forthcoming)

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2498083](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2498083)

This chapter focuses on intellectual property (“IP”) issues in the university setting. Often, universities require faculty who have been hired in whole or in part to invent to assign inventions created within the scope of their employment to the university. In addition, the most effective way to secure compliance with the Bayh-Dole Act, which deals with ownership of inventions involving federally funded research, is for the university to take title to such inventions. Failure to specify who has title can result in title passing to the government. The university then decides whether to process a patent application, and if it does, whether to pursue options for commercialization, frequently including licensing the invention to industry.

A number of academics and other commentators have contended that it would be more efficient and fair to allow faculty to own the rights to their own inventions, even if they have been hired in part to invent and the inventions are created within the scope of employment. The debate, it should be noted, is only over the appropriate default rule. Not even critics of the current institutional default rule would object to faculty assignment of ownership rights to the university. Since faculty are not generally in a good position to pursue commercialization on their own, the question for public policy is what are the benefits and costs of allowing faculty, in the first instance, to decide whether the university or some other entity should manage the commercialization process.

This chapter evaluates the case for changing the ownership default rule. First, we provide background on patent rights in the employment setting and how patent rights are applied in a university environment. Second, we explain how most universities handle faculty inventions and technology transfer. Third, we lay out and challenge some of the key arguments critics have offered in support of faculty control of patent rights. Finally, we suggest that faculty inventions which use other university resources, including personnel such as graduate and post-doctoral students, are best viewed as a product of a team production process rather than solely the invention of the faculty member; and the university generally is the more efficient manager of the commercialization effort.

# IP Law & Policy

## Patentable subject matter and non-patent innovation incentives

Lisa Larrimore Ouellette (Stanford Law School)

*U.C. Irvine Law Review, Vol. 5, 2015, Forthcoming*

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2499204](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2499204)

In four patentable subject matter cases in the past five Terms, the Supreme Court has reaffirmed the judicially created prohibitions on patenting "abstract ideas" and "nature," but the boundaries of these exceptions remain highly contested. The dominant justification for these limitations is utilitarian: courts create exemptions in areas where patents are more likely to thwart innovation than to promote it. The resulting debates thus focus on whether patents are needed to provide adequate innovation incentives in disputed fields such as software or genetic research, or whether private incentives such as reputational gains, first-mover advantages, or competitive pressures are sufficient. These debates frequently overlook a significant fact: the absence of patents does not imply that there would be only private incentives. Rather, federal and state governments facilitate financial transfers to researchers through a host of mechanisms — including tax incentives, direct grants and contracts, prizes, and regulatory exclusivity — which already provide substantial research support in the fields where patents are the most controversial.

Paying attention to non-patent incentives could prevent courts from being misled by the concern that a lack of patents for a certain type of invention would remove all incentives for nonobvious and valuable research in that field. Non-patent innovation incentives could also help ease the tension between utilitarian and moral considerations in the current patentable subject matter debates: if many people find patents on certain inventions (such as "human genes") morally objectionable, utilitarian goals can still be served by using other transfer mechanisms to substitute for the incentive provided by patents. Indeed, non-patent incentives may be more effective than patents in contested areas, where inventors who share moral objections find little incentive in patents, and those who do not still find the patent incentive to be dulled by the persistent uncertainty that has plagued patentable subject matter doctrine in recent years. Wider appreciation of the range of innovation incentives would help bring patentable subject matter discussions in line with the realities of scientific research, and might even make this doctrinal morass more tractable.

## Which patent systems are better for inventors?

James E. Bessen (Boston University – School of Law)

Grid Thoma (University of Camerino)

*Working Paper*

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2497495](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2497495)

International comparisons of patent systems are essential to harmonization treaties and to analyze economic growth. Yet these comparisons often rely on little but conventional wisdom. This paper develops an empirical method to compare the economic strength and quality of patent systems by using renewal analysis of matched patents in different countries (same patent family). Comparing patents on the same inventions filed at the EPO for Germany and in the US, we find that the German patents generate substantially greater market power than their US equivalents, especially for small inventors. Also, the average US patent has relatively lower economic value ("quality").

## Patent citations and stock performance: constructing a dynamic industry classification

Sebastien Gay (University of Chicago)

Ezra Karger (University of Chicago)

*Working Paper*

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2496414](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2496414)

Researchers in academia and the private sector use industry classifications to compare growth across and between industries, to construct industry indices, and to control for industry-level correlations of

stocks over time. But commonly used industry classifications do not reliably predict stock co-movement because companies change their core structure quickly relative to the slow and haphazard updating of the widely-used subjective industry classifications.

We propose an objective industry classification that clusters companies based on a network of patent citations to better measure changes in the relationships between companies over time. Our cluster-based industry classification predicts daily stock co-movement between 5% and 25% better than the standard SIC and NAICS classifications. Our classification is also a statistically significant addition to a standard 3-factor Fama-French model and outperforms SIC and NAICS classifications in its ability to explain variance in daily and monthly stock returns. While the ability of Standard Industry Classification (SIC) codes and the North American Industry Classification System (NAICS) to group together companies with similar daily stock returns has deteriorated over time, our clustering framework consistently groups together companies with similar daily stock returns in each year between 1947 and 2010.

### **Unpatentability by design: the overlooked use of inter partes and post-grant review to challenge design patents**

Sara R. Bennett (American University Washington College of Law)  
Jonathan R. K. Stroud (American University Washington College of Law)  
*97 Journal of the Patent and Trademark Office Society, March 2015, Forthcoming*  
[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2504569](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2504569)

U.S. Patent and Trademark Office — and its quasi-judicial body, the Patent Trial and Appeals Board (PTAB) — have implemented new, fast-paced patent review procedures with minimal discovery and maximum efficiency. In the first two years of existence, the proceedings have proved potent, with over 2,000 petitions filed, many resulting in trial, and some holding unpatentable claims and canceling patents. Yet parties, practitioners, rights-holders, and litigants may not realize that these trials may also challenge design patents. Indeed, a handful of design patents have been challenged, resulting in one notable case in the design being held unpatentable. With different operative law, design patents present unique challenges in inter partes (IPR) and post-grant review (PGR). We analyze the handful of design patents, attempting to shed light on how the PTAB will implement this variation on a theme.

### **Patent law's problem children: software and biotechnology in transatlantic context**

Dan L. Burk (University of California, Irvine School of Law)  
*GLOBAL PERSPECTIVES ON PATENT LAW 187 (Ruth Okediji & Margo Bagley, eds., 2014)*  
[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2496250](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2496250)

The law of patentable subject matter has been in flux now for nearly three decades. On both sides of the Atlantic, courts, administrative agencies, and legislators have struggled with the application of patent law to biotechnology and computer software, the "problem children" of modern patent law. While this ongoing struggle has not yet produced definitive solutions to the quandaries posed by these technologies, it may have at last defined the problem. Both biological and digital code are increasingly treated under similar standards, suggesting the convergence on a consistent doctrine for information technologies. This chapter traces the major developments in software and biotechnology patenting in Europe and in North America, demonstrating the parallel approaches taken by jurisdictions on both sides of the Atlantic, as well as the common issues posed by both technologies.

### **The new model of interest group representation in patent law**

Rachel Sachs (Harvard Law School)  
*Yale Journal of Law & Technology, Vol. 16, p. 344, 2014*  
[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2505788](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2505788)

Traditional public choice theory postulates that interest group representation is primarily responsible for the passage of legislation in a variety of areas. Intellectual property scholars have largely embraced

public choice theory as accurately explaining the enactment of intellectual property laws, agreeing both that the general assumptions of the public choice model are met and that specific statutes bear the scars of the interest group negotiation process. This Article contends that the reality of legislative enactment in patent law diverges from this conventional wisdom. Drawing on three case studies — the Federal Courts Improvement Act of 1982, the Bayh-Dole Act, and the Hatch-Waxman Act — this Article argues that in actuality, legislative enactments in patent law occur along a spectrum of interest group representation. In this space, laws are often passed where the relevant interest groups are unorganized or even nonexistent. This Article goes on to inductively establish a set of factors that both seek to explain these cases and to distinguish them from copyright statutes, which often adhere quite closely to traditional public choice predictions. Having suggested several factors and identified ways in which they provide testable hypotheses, the Article ultimately considers the implications of the analysis both for those wishing to enact statutes that would alter patent rights and for scholars of public choice theory and intellectual property.

## IP & Litigation

### Our divided patent system?

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*University of Chicago Law Review*, Vol. 82, 2015, Forthcoming

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2510004](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2510004)

In this comprehensive new study, we evaluate all substantive decisions rendered by any court in every patent case filed in 2008 and 2009 — decisions made between 2009 and 2013. We assess the outcome of litigation by technology and industry. We relate the outcomes of those cases to a host of variables, including variables related to the parties, the patents, and the courts in which those cases were litigated.

We find dramatic differences in the outcomes of patent litigation by both technology and industry. For example, owners of patents in the pharmaceutical industry fare much better in dispositive litigation rulings than do owners of patents in the computer & electronics industry, and chemistry patents have much greater success in litigation than their software or biotech counterparts. Our results provide an important window into both patent litigation and the industry-specific battles over patent reform. And they suggest that the traditional narrative of industry-specific patent disputes, which pits the IT industries against the life sciences, is incomplete.

### Patent litigation and shareholder value: the impact of defendant cash holdings

David Tan (University of Washington)

Jie Yang (Georgetown University – McDonough School of Business)

*Working Paper*

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2504156](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2504156)

We examine how defendant cash holdings impact shareholder value in patent litigation. A war chest of cash can make defendants more formidable targets and raise the cost of litigation for plaintiffs. However, it can also allow defendants to engage in more value-destroying litigation spending. Consistent with the free cash flow theory (Jensen, 1986), we find that while plaintiffs lose more value when defendants have larger cash holdings, defendants also lose more value, and there is greater joint loss of shareholder value for both sides. These results are robust to considering alternative explanations, including defendant financial constraints.

# IP & Copyright

## **An information theory of copyright law**

Jeanne C. Fromer (New York University School of Law)

*Emory Law Journal*, Vol. 64, p. 71, 2014

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2500614](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2500614)

The dominant American theory of copyright law is utilitarian, in offering the incentive of limited copyright protection to creators to generate material that is valuable to society. Less settled is the question of the sorts of works that copyright law seeks to encourage: Ever more copyrightable creations? Only some that are artistically worthy? What makes a work valuable to society? This Article seeks to answer important aspects of these questions by examining them through the lens of information theory, a branch of applied mathematics that quantifies information and suggests optimal ways to transmit it. Using these concepts, this Article proposes that what makes expressive works valuable to society is that they make a contribution in at least one of two principal ways: by using that expression to communicate knowledge — be it systematic, factual, or cultural — and by conveying expression that is enjoyable in and of itself. Information theory sheds light on how copyright law can spur these valuable works. In undertaking this analysis, this Article explores the implications for the central doctrines of copyright law, including copyrightability, the idea-expression distinction, infringement, and fair use. In this context, this Article also considers whether we want distinct creators communicating these valuable types of information or whether it is optimal to unify particular communications of information in a single creator.

## **Copyright trust**

Abraham Bell (University of San Diego School of Law)

Gideon Parchomovsky (University of Pennsylvania Law School)

*Cornell Law Review*, Forthcoming

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2496837](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2496837)

Collaborative production of expressive content accounts for an ever growing number of copyrighted works. Indeed, in the age of content sharing and peer production, collaborative efforts may have become the paradigmatic form of authorship. Surprisingly, though, copyright law continues to view the single author model as the dominant model of peer production. Copyright law's approach to authorship is currently based on a hodgepodge of rigid doctrines that conflate ownership and control. The result is a binary system under which a contributor to a collaborative work is either recognized as an author with a full control and management rights or a person who is deemed a non-author with no rights whatsoever. We argue that the doctrines and judicial precedents that govern the all-important issue of authorship are out of step with authorial reality. And the cost to the copyright system is enormous. As we show in this Article the misalignment between copyright law and authorial reality is both inefficient and unfair: it harms incentives to create, it denies reward to contributors, it leads to under-utilization of content and it creates excessive litigation.

To remedy this state of affairs, we propose a new legal construct, which we call "copyright trust." In designing this new tool we draw on insights from property and corporate theory — two areas of research that have long dealt with the challenges of collaborative enterprises and co-ownerships. The doctrine of copyright trust is predicated on the insight of decoupling ownership from control. Essentially, it would empower courts to appoint one contributor as an "owner-trustee" with full managerial rights and the exclusive power to control the use of the work, while recognizing all other contributors as "owner-beneficiaries," who would be entitled to receive a certain percentage of the proceeds from the work. Copyright trusts would enable courts to retain the benefits of having a single owner without sacrificing the rightful claims of other contributors who would be entitled to receive a just reward for their efforts. The proposed doctrine of copyright trust would supplement, not replace, current doctrine. It is designed to enrich the menu of options available to courts in deciding authorship issues. The addition of our solution to the judicial toolbox would not only make it richer, but would also infuse current law with much needed flexibility that is sorely missing from other authorship doctrines.

## Copyright and creativity: evidence from Italian operas

Michela Giorcelli (Stanford University)

Petra Moser (Stanford University)

*Working Paper*

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2505776](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2505776)

This paper exploits variation in the adoption of copyright laws within Italy – as a result of Napoleon’s military campaign – to examine the effects of copyrights on creativity. To measure variation in the quantity and quality of creative output, we have collected detailed data on 2,598 operas that premiered across eight states within Italy between 1770 and 1900. These data indicate that the adoption of copyrights led to a significant increase in the number of new operas premiered per state and year. Moreover, we find that the number of high-quality operas also increased – measured both by their contemporary popularity and by the longevity of operas. By comparison, evidence for a significant effect of copyright extensions is substantially more limited. Data on composers’ places of birth indicate that the adoption of copyrights triggered a shift in patterns of composers’ migration, and helped attract a large number of new composers to states that offered copyrights.

## IP & Biotechnology

### Myriad lessons learned

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*UC Irvine Law Review, Forthcoming*

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2499789](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2499789)

In June 2013, in *Assoc. of Molecular Pathologists v. Myriad Genetics, Inc.* (“Myriad”), the Supreme Court answered the provocative question, “Are human genes patentable?” with an equivocal, “Probably not.” Since then, a lot of ink has spilled speculating on the impact of the decision, yet many questions remain unanswered for biotechnology companies, genetic researchers, and healthcare providers who must navigate its legal aftermath — what influence will Myriad have over the patent subject matter eligibility doctrine, how will Myriad impact investment decisions within the biotechnology industry, will Myriad Genetics, Inc.’s (“Myriad”) remaining patents and proprietary data successfully keep competitors at bay, and how might personalized cancer care change as a result? Instead of answering these questions directly, this Article presents the Myriad saga as a cautionary patent tale, one that explores a more fundamental question — how can patent law, in the words of Benjamin Cardozo, “mediate between the conflicting claims of stability and progress?”

### About the editor

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