



IP Literature Watch

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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 theoretical framework for empirical research on PAEs and privateers

Anne Layne-Farrar (Charles River Associates; Northwestern University)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2728390

Patent Assertion Entities – firms that acquire patents from others and then deploy them for licensing or damages revenues rather than for practice within their own products or services – have been a frequent subject of debate over the last several years. More recently, focus has centered on a new species of PAE, “privateers” or “hybrid PAEs”. These are entities that obtain patent enforcement rights from practicing entities, assert those patents in litigation, and then share the damages earnings with the original patent holder. This paper provides a theoretical assessment of how hybrid PAEs may alter the litigation landscape. The framework developed here can provide an important aid to guide empirical work.

The economics of FRAND

Anne Layne-Farrar (Charles River Associates; Northwestern University)

Antitrust Intellectual Property and High Tech Handbook, Cambridge University Press, Daniel Sokol ed., Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2725959

Since the issue first emerged in the policy arena in the early 2000s, economists have been debating the meaning and implications of FRAND licensing commitments within cooperative technology standard setting organizations (SSOs). Today the issue is global, with scholars and policymakers in Europe, Korea, Japan, China, Taiwan, India, and Brazil all weighing in. Most SSOs around the world ask their members to commit to offer any patents that might be needed to implement a standard in commercial products and services (that is, any patents that might be “essential” for the practice of the standard) on

Fair, Reasonable and Non-Discriminatory (FRAND) terms. But what exactly does it mean to license a patent on fair, reasonable, and non-discriminatory terms and conditions? Does promising to do so come with other, implicit, obligations as well, such as foregoing seeking an injunction which is otherwise an option for patent holders? And more fundamentally, why do SSOs ask their patent-contributing members to commit to FRAND?

In this chapter, I review the academic literature on FRAND licensing. My review is intended to discuss the economic underpinnings of FRAND, but it would be incomplete without discussing court rulings to date, as FRAND court decisions provide real world boundaries to interpretations of FRAND licensing. That being said, my summary of the court cases focuses on the economic interpretation of FRAND and the practical implications for expert analysis, and does not cover any legal assessment (for which I am unqualified). While the underlying economics of FRAND are universal, legal and institutional factors affect court outcomes and policy interests; I therefore restrict my discussion to the US.

Patent pools and clearinghouses in the life sciences: back to the future

Geertrui Van Overwalle (Leuven University – Center for IT and IP Law (CiTiP))

Research Handbook on IP and the Life Sciences, D. Matthews & H. Zech (eds.), Edward Elgar, 2016, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2729809

Patents in the life sciences sector have sparked considerable debate over the past years. The grant of a series of patents for the screening of breast cancer (BRCA) genes led to wide controversy in Europe, the US and Australia. The grant of patents for plants resulting from essentially biological processes, also spurred stormy disputes. Decisions on the scope of plant biotech patents equally fueled a legal battle. Last but not least, the grant of patents for human embryonic stem cells in the US, triggered fierce discussions in Europe.

In the ongoing debate, concern has been expressed about the potential hindering effect on innovation of the continuous increase of patents in the life sciences. The academic debate on the possible discouraging impact of the proliferation of patents was set in motion by the seminal article from Heller and Eisenberg 'Can Patents Deter Innovation? The Anti-commons in Biomedical Research' in 1998.

Our past research aimed at contributing to the anti-commons debate in two ways. A first objective was to assess whether the prevailing assumption that an anti-commons problem was present in biomedical sciences held out in the field of human genetics. A second objective of our research was to explore solutions to the acclaimed anti-commons problem in the field of genetics. Rather than focusing on legislative (public ordering) measures, we explored to what extent collaborative licensing mechanisms (private ordering measures), such as patent pools and clearinghouses, could act as useful mechanisms to remedy possible adverse effects of fragmentation in the area of genetics.

The present paper aims at re-visiting our former insights in a present-day context. First, we re-examine the patent proliferation phenomenon and related anti-commons problem by investigating the patent growth and re-assessing the existence of patent thickets in the life sciences. Second, and most importantly, we re-visit the collaborative license solution, by taking stock of new models and trends and by carrying out an in-depth analysis of operative models. We close by summarizing lessons learned from the past, which might be meaningful for (re-)writing the future.

The smallest salable patent-practicing unit (SSPPU) experiment, general purpose technologies and the Coase theorem

Nicolas Petit (University of Liege – School of Law)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2734245

In the last years, some Standard-Setting Organizations (“SSOs”) active in wireless communications have experimented new pricing principles for standard essential patents (“SEPs”). One of those experiments is the “SSPPU” rule. Under SSPPU, the licensing rates paid to owners of SEPs for the use of their technology shall reflect the “value that the functionality of the claimed invention or inventive feature...contributes to the value of the relevant functionality of the smallest saleable Compliant Implementation that practices the Essential Patent Claim”. This paper reviews the SSPPU experiment through the lenses of the Coase theorem. It finds that SSPPU interferes with the efficient operation of the price system, and is likely to reduce investment in socially beneficial activities, including in General Purpose Technologies (“GPTs”) which are key drivers of economic growth.

IP & Innovation

I think, therefore I invent: creative computers and the future of patent law

Ryan Abbott (Southwestern Law School; University of California, Los Angeles – David Geffen School of Medicine)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2727884

An innovation revolution is on the horizon. Artificial intelligence has been generating inventive output for decades, and now the continued and exponential growth in computing power is poised to take creative machines from novelties to major drivers of economic growth. A creative singularity is foreseeable in which computers overtake human inventors as the primary source of new discoveries.

In some cases, a computer’s output constitutes patentable subject matter, and the computer rather than a person meets the requirements for inventorship. Despite this, and despite the fact that the Patent Office has already granted patents for inventions by computers, the issue of computer inventorship has never been explicitly considered by the courts, Congress, or the Patent Office. Yet the issue of whether a computer can be an inventor is an eminently practical one — not only do inventors have ownership rights in a patent, but failure to list an inventor can result in a patent being held invalid or unenforceable.

Drawing on dynamic principles of statutory interpretation and taking analogies from the copyright context, this article argues that creative computers should be considered inventors under the Patent and Copyright Clause of the Constitution. Treating nonhumans as inventors would incentivize the creation of intellectual property by encouraging the development of creative computers. The article proceeds to address a host of challenges that would result from computer inventorship, ranging from ownership of computer-based inventions, to displacement of human inventors, to the need for consumer protection policies.

This analysis applies more broadly to nonhuman creators of intellectual property, and explains why the Copyright Office came to the wrong conclusion with its new Human Authorship Requirement. Just as

permitting computer inventorship will further promote the progress of science, so too will permitting animal authorship promote the useful arts.

Finally, computer inventorship provides insight into other areas of patent law. For instance, computers could replace the hypothetical skilled person that courts use to judge inventiveness. This would provide justification for raising the bar to patentability and address one of the most serious criticisms of the patent system — that too many patents of questionable value are issued. Creative computers may require a whole rethinking of the baseline standard for inventiveness, and potentially of the entire patent system.

What's in, and what's out: how IP's boundary rules shape innovation

Mark P. McKenna (Notre Dame Law School)

Christopher Jon Sprigman (New York University School of Law)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2735073

Intellectual property law sorts subject matter into a variety of different regimes, each with different terms of protection and different rules of protectability, infringement, and defenses. For that sorting to be effective, IP needs principles to distinguish the subject matter of each system. This paper focuses on one of the most important aspects of border-drawing that our IP system undertakes — identifying “useful” subject matter.

This aspect is critical because our IP system gives utility patent law pride of place and draws the boundaries of the other doctrines in large part to respect utility patent’s supremacy. Yet IP law’s sense of utility patent law’s domain is poorly theorized, and courts’ understanding of the boundaries of utility patent is mostly reductive and intuitive. While it’s clear that claimed inventions must be useful, courts inconsistently enforce a technological understanding of utility. That view of utility is normative rather than empirical. And its under-theorization has consequences for patent law itself — consequences that cascade across the other forms of IP because each of the other systems defers protection for these “useful” or “functional” features to utility patent.

The problem is much more than a doctrinal one, since the sorting rules we develop cannot help but shape the nature and direction of innovation. IP incentives regarding software, for example, are necessarily shaped by the ways we sort some aspects into patent law and others into copyright. The choice of IP systems will also have significant competitive consequences. Different mixes of IP regimes (and of IP regimes with other types of regulatory exclusivity, etc.) will promote competition along different dimensions. A patent-heavy system will promote competition along utilitarian or conventionally “functional” characteristics, and systems that rely more on trademark/advertising are going to promote competition along other, more phenomenological, dimensions.

Until we appreciate all of the forms of utility, and until we have a calculus for understanding their relative value, we can’t think coherently about which types of competition we want to promote or the costs of promoting that type of competition. Nor can we even think about how best to satisfy consumers’ actual demand, or how different IP regimes can actually help shape that demand. We are blind to a variety of considerations that actually affect consumer welfare.

The USPTO patent examination research dataset: a window on the process of patent examination

Stuart J.H. Graham (Georgia Institute of Technology – Scheller College of Business; United States Patent and Trademark Office)

Alan C. Marco (United States Patent and Trademark Office)

Richard Miller (United States Patent and Trademark Office)

Georgia Tech Scheller College of Business Research Paper No. WP 43

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2729322

A surprisingly small amount of empirical research has been focused on the process of obtaining a patent grant from the United States Patent and Trademark Office (PTO). The purpose of this document is to describe the Patent Examination Dataset (PatEX), make a large amount of information from the Public Patent Application Information Retrieval system (Public PAIR) more readily available to researchers. PatEX includes records on over 9 million US patent applications, with information complete as of January 24, 2015 for all applications included in Public PAIR with filing dates prior to January 1, 2015. Variables in PatEX cover most of the relevant information related to US patent examination, including characteristics of inventions, applications, applicants, attorneys, and examiners, and status codes for all actions taken, by both the applicant and examiner, throughout the examination process. A significant section of this documentation describes the selectivity issues that arise from the omission of “nonpublic” applications. We find that the selection issues were much more pronounced for applications received prior to the implementation of the American Inventors Protection Act (AIPA) in late 2000. We also find that the extent of any selection bias will be at least partially determined by the sub-population of interest in any given research project.

IP & Litigation

Strategic decision making in dual PTAB and district court proceedings

Saurabh Vishnubhakat (Texas A&M University School of Law; Duke University School of Law)

Arti K. Rai (Duke University School of Law; Duke Innovation & Entrepreneurship Initiative)

Jay P. Kesan (University of Illinois College of Law)

Berkeley Technology Law Journal, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2731002

The post-grant review proceedings set up at the U.S. Patent and Trademark Office’s Patent and Trial Appeal Board by the America Invents Act of 2011 have transformed the relationship between Article III patent litigation and the administrative state. Not surprisingly, such dramatic change has itself yielded additional litigation possibilities: *Cuozzo Speed Technologies v. Lee*, a case addressing divergence between the manner in which the PTAB and Article III courts construe patent claims, will soon be argued at the U.S. Supreme Court.

Of the three major new PTAB proceedings, two have proven to be popular as well as controversial: inter partes review and covered business method review. Yet scholarly analysis of litigant behavior in these proceedings has been limited thus far to descriptive data summaries or specific policy perspectives on these types of post-grant challenges, such as their impact on the well-rehearsed patent troll debate. In this article, we present what is to our knowledge the first comprehensive empirical and analytical study of how litigants use these inter partes review and covered business method review proceedings relative to Article III litigation.

A major normative argument for administrative ex post review is that it should be an efficient, accessible, and accurate substitute for Article III litigation over patent validity. We assess the substitution hypothesis, using individual patents as our general unit of analysis as well as investigating patent-petitioner pairs and similar details in greater depth. Our data indicate that the “standard model” of explicit substitution — wherein a district court defendant subsequently brings an administrative challenge to patent validity — occurs for the majority (70%) of petitioners who bring inter partes review challenges. An important implication of this effect is that the PTAB should use a claim construction standard that mirrors that of the district court, so that substituting administrative process for judicial process does not lead to substantively different outcomes.

Notably, however, standard substitution is not the only use of the PTAB: particularly in the area of inter partes reviews, we also see a surprising percentage of cases (about 30%) where the petitioner is not the target of a prior suit on the same patent. The frequency of these nonstandard petitioners, as well as their tendency to join the same petitions as an entity that has been sued, varies by technology. Our data on nonstandard petitioners provide some insight into the extent to which patent challengers are engaging in collective action to contest the validity of patents. Depending on the details of how nonstandard petitioning and collective action are being deployed, this activity could provide a social benefit or constitute a form of harassment.

Do patent challenges increase competition?

Stephen Yelderman (Notre Dame Law School)

University of Chicago Law Review, Vol. 83, 2016

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2731216

As a general rule, judges and scholars believe settlement is a good thing. But, for nearly a century, the Supreme Court has said that patent litigation is categorically different, since it offers the chance to increase competition by freeing the public from the burdens of a monopoly. Based on this theory, and in the hopes of seeing more patent litigation fought to completion, the Court has overturned longstanding common law doctrines, declined to enforce otherwise valid contracts, and — in the recent case of *FTC v. Actavis* — subjected patent settlements to scrutiny under the antitrust laws. Similar reasoning has resulted in legislative initiatives to encourage patent disputes, including the regulatory bounty for challenging pharmaceutical patents included in the 1984 Hatch-Waxman Act and the administrative review procedures created by the 2011 America Invents Act. Moreover, scholars continue to call for reforms to provoke additional patent challenges, again asserting their supposed pro-competitive benefits.

This Article is the first to seriously scrutinize the claim that patent challenges lead to increased competition. It identifies a number of conditions that must hold for a patent challenge to provide this particular benefit, and evaluates the reasonableness of assuming that the pro-competitive benefits of patent challenges are generally available. As it turns out, there are a number of ways these conditions can and regularly do fail. This Article synthesizes legal doctrine, recent empirical scholarship, and several novel case studies to identify categories of challenges where the potential benefits for competition are smaller than previously thought or, in some cases, completely unavailable.

This analysis has a number of implications for patent law and policy. First, it provides critical guidance for how the patent office should administer its new review authority under the America Invents Act. Second, it exposes flaws in several judicially created policies intended to encourage more patent challenges. Third, it vindicates the present scope of the regulatory bounties provided under the Hatch-

Waxman Act, and cautions against recently proposed expansion of these incentives to other technology areas. Fourth, it sheds new light on the competitive consequences of patent settlements, and thus informs how the Court's recent *FTC v. Actavis* decision should be applied in future cases.

IP Law & Policy

The law of look and feel

Peter Lee (University of California, Davis – School of Law)

Madhavi Sunder (University of California, Davis – School of Law)

UC Davis Legal Studies Research Paper No. 482

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2733780

Design is the currency of corporations, and increasingly, under the Demsetzian logic, the subject of property claims by them. The world's biggest company owes its value largely to design. Where once Apple's claim to own its popular graphical user interface was rebuffed readily by courts, today, design-related claims lead to billion dollar judgments in Apple's favor. Today design – which includes everything from shape, color, and packaging to user interface, consumer experience, and organizational structure – plays a central role in the modern economy and is increasingly the subject of intellectual property law's attention.

But the law of design is confused and confusing. It is splintered among various doctrines in copyright, trademark and trade dress, and patent law. Indeed, while nearly every area of modern IP law has been marshalled in the service of design protection, the law has taken a siloed approach, with separate disciplines developing ad hoc rules and exceptions to design protection. To make matters worse, different disciplines within IP use similar terms and concepts – functionality, consumer confusion – but apply them in wholly different, even contradictory ways.

This Article provides the first comprehensive assessment of the regulation of consumers' aesthetic experiences in copyright, trade dress, and patent law – what we call “the law of look and feel.” We canvas the diverse ways that parties have utilized (and stretched) intellectual property law to protect design in a broad range of products and services, from Pac-Man to Louboutin shoes to the iPhone, from the “feel of the ‘70s” captured in Marvin Gaye's music, the scantily clad employees of Abercrombie & Fitch, and the décor of Mexican restaurants, to Apple's technologies of “pinch to zoom,” “bounce-back” and “rubberbanding.” In so doing, we identify an emergent “law of look and feel” that finds unity among the diversity of IP laws protecting aesthetic experience. Going further, we argue that the new enclosure movement of design, if not comprehensively reformed and grounded in theory, can in fact erode innovation, competition, and cultural cohesion itself.

Of fences and definite patent boundaries

Deepa Varadarajan (Georgia State University – J. Mack Robinson College of Business; Georgia State University – College of Law)

Vanderbilt Journal of Entertainment & Technology Law, Vol. 18, 2016, Forthcoming

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2727963

Patent claims are supposed to mark the boundaries of a patent clearly so that competitors and follow-on innovators can avoid infringement. But commentators routinely lament the failure of patent claims to

adequately perform this notice function. In numerous calls for patent reform, courts and scholars have contrasted the indeterminacy of patent claims with the clarity of real property boundaries. The Supreme Court recently echoed this sentiment in *Nautilus v. Biosig Instruments*. In *Nautilus*, the Court heightened the patent requirement of claim definiteness and reversed Federal Circuit precedent, which had allowed many ambiguous claims to survive invalidity challenges.

This Article analyzes how the oft-invoked contrast between ambiguous patent claims and clear property boundaries (e.g., “fences”) bears on two controversial issues in patent scholarship: (1) the problem of uncertain claim scope and (2) the role of “property-talk” — using traditional property law as metaphor, rhetorical device, or doctrinal guide — in patent law. Many intellectual property scholars view property-talk suspiciously, because it usually supports strengthening patent holders’ rights at the expense of competitors and follow-on innovators.

This Article’s primary contribution is to complicate the prevailing view of property-talk in patent law as uniformly favoring patent holders. This Article focuses on the claim uncertainty problem and recent changes to patent law’s definiteness requirement. In this context, property-talk — specifically, the metaphor of clear, fixed, and determinate real property boundaries — supports requiring patentees to draft clearer claims and provide better notice to competitors and follow-on innovators about the boundaries of a patent.

Fair and equitable treatment and judicial patent decisions

Kathleen Liddell (University of Cambridge – Faculty of Law)

Michael Waibel (University of Cambridge – Faculty of Law; Lauterpacht Centre for International Law; University of Cambridge – Jesus College)

University of Cambridge Faculty of Law Research Paper No. 4/2016

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2722452

This article focuses on the increased scope for tension between obligations under investment treaties, particularly fair and equitable treatment, and the interpretation of national patent law by domestic courts. Precisely because investment treaties were created to protect investors from State-led mistreatment and bias, and investment treaties include intellectual property (IP) rights in their definition of investment, the question is how much flexibility national courts retain in applying, interpreting and developing IP laws. The implication of international investment treaties limiting longstanding flexibilities in IP law could be serious and profound. What more precisely are the implications of the IIL fair and equitable treatment standard for patent law and domestic court interpretations?

Our main conclusions are: first, that investment tribunals should defer substantially to interpretations of patent law by domestic courts, limiting themselves to reviewing decisions for lack of a rational basis or lack of elementary procedural fairness (denial of justice). They should not engage in closer scrutiny. Second, if investment tribunals engage in closer scrutiny (for instance, in relation to patent decisions by other State organs, or if they reject our first conclusion), fair and equitable treatment provides limited stability for existing patents and for patent law. Investors have no legitimate expectation that national patents will be irrevocable, that national courts will interpret domestic rules of patentability – such as utility – in a particular way, or that patent law will be static over time. However, domestic courts (and other State organs) breach FET if they contradict settled patent law and apply this to existing patents in such a way that the patent rights are diminished, or adopt an interpretation with no rational basis.

Copyright Law

Dueling monologues on the public domain: what digital copyright can learn from antitrust

Timothy K. Armstrong (University of Cincinnati College of Law)

1 University of Cincinnati Intellectual Property & Computer Law Journal 1 (2016)

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2731843

This article, written for the inaugural volume of the *University of Cincinnati Intellectual Property and Computer Law Journal*, explores the disconnect between contemporary United States intellectual property law and the often quite different consensus views of disinterested expert opinion. Questions concerning how copyright law treats the public domain (that is, uncopyrighted material) supply a lens for comparing the law as it stands with the law as scholars have suggested it should be. The ultimate goal is to understand why a quarter century of predominantly critical scholarship on intellectual property seems to have exerted such limited influence on Congress and the courts. Comparing recent copyright history with the dramatic shift in federal antitrust law that occurred during the last four decades in response to academic criticism from the law-and-economics movement, this article asks whether today's would-be copyright reformers have anything to learn from the transformation of antitrust law.

IP & Asia

Access to medicines in the mature TRIPS regime: a skeptical view

Christopher Jon Arup (Monash University)

Jagjit Plahe (Monash University – Department of Management)

Working Paper

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2730395

This paper presents a way to think about a legal solution to an intractable problem, reconciling a now worldwide patent rights regime with access to essential medicines. In doing so, it insists that the potentialities of the current TRIPS flexibilities be assessed realistically. The focus is on the Indian legal experience of the flexibilities but, because India is the source of most generic drugs for poorer people around the world, it is the Indian experience in its interaction with the international agreement and in comparison with the laws in other countries, and indeed with the political economy of the production and distribution of medicines. This assessment raises questions about perspectives that expect the flexibilities to work at the national level. It considers what can be done now at the international level where the legal power of the patent begins.

About the editor

Dr. Anne Layne-Farrar is a vice president in the Antitrust & Competition Economics Practice of CRA. She specializes in antitrust and intellectual property matters, especially where the two issues are combined. She advises clients on competition, intellectual property, regulation, and policy issues across a broad range of industries with a particular focus on high-tech and has worked with some of the largest information technology, communications, and pharmaceuticals companies in the world.

Contact

For more information about this issue of *IP Literature Watch*, please contact the editor:

Anne Layne-Farrar
Vice President
Chicago
+1-312-377-9238
alayne-farrar@crai.com

www.crai.com/antitrust

www.crai.com/ip

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