



IP Literature Watch

CRA Charles River
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April 2019

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

Error costs, ratio tests, and patent antitrust law

Keith N. Hylton (Boston University - School of Law)

Wendy Xu (Boston University)

Boston Univ. School of Law, Law and Economics Research Paper No. 19-5

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3365034

This paper examines the welfare tradeoff between patent and antitrust law. Since patent and antitrust law have contradictory goals, the question that naturally arises is how one should choose between the two in instances where there is a conflict. One sensible approach to choosing between two legal standards, or between proof standards with respect to evidence, is to consider the relative costs of errors. The approach in this paper is to consider the ratio of false positives to false negatives in patent antitrust. We find that the relevant error cost ratio for patent antitrust is the proportion of the sum of the monopoly profit and residual consumer surplus to the deadweight loss. This error cost ratio, for a wide range of deterministic demand functions, ranges from infinity to a low of roughly three. This suggests that patent antitrust law should err on the side of protecting innovation incentives.

IP & Innovation

AI & IP: Innovation & creativity in an age of accelerated change

Daryl Lim (The John Marshall Law School)

Akron Law Review (Symposium Article), Forthcoming

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3369200

From a glimmer in the eye of a Victorian woman ahead of her time, AI has become a cornerstone of innovation that will be the defining technology of our time. Around 2016, the convergence of computing power, funding, data, and open-source platforms tipped us into an AI-driven Fourth Industrial

Revolution. AI can make a difference in accelerating disruptive innovation by bringing a data-driven approach to invention and creation. To do so, the law must embrace change and innovation as an imperative in a journey towards an ever-shifting horizon. AI both enables and challenges how we reward individuals whose ingenuity, industry, and determination overcame the frailty of the human condition to offer us inventions that make our lives more efficient and pleasurable. It will take a clear-eyed view to ensure that copyright and patent laws do not impede the very progress they were designed to promote.

In the creative arts, the work for hire doctrine provides a pragmatic legal vehicle for interests to vest and be negotiated by the commercial interests best placed to encourage investment in both the technology and its downstream uses. Like human-generated work, AI-generated work is an amalgam of mimicry mined from our own learning and experience. The training data it draws upon, both for expressive and non-expressive uses, is merely grist for AI's mill. Consequently, fair use must be applied to prevent holdup by copyright owners and stifle transformative uses enabled by AI. AI can also be used to decipher complex copyright infringement cases such as those involving musical compositions. In the technological arts, the controversy will revolve around who owns innovative breakthroughs primarily or totally attributed to AI. How should these breakthroughs affect the regard for the notion of PHOSITA? How does AI change the equation when it comes to infringement? And how can AI help save the patent system from obsolescence?

The cost of novelty

W. Nicholson Price (University of Michigan Law School)

Columbia Law Review, Vol. 119, No. 8, (Forthcoming 2019)

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3350477

Patent law tries to spur the development of new, better, innovative technology. But it focuses much more on “new” than “better” — and it turns out that “new” carries real social costs. I argue that patent law promotes innovation that diverges from existing technology, either a little (what I call “differentiating innovation”) or a lot (“exploring innovation”), at the expense of innovation that tells us more about existing technology (“deepening innovation”). Patent law’s focus on newness is unsurprising, and fits within a well-told narrative of innovative diversity accompanied by market selection of the best technologies. Unfortunately, innovative diversity brings not only the potential benefits of technological advances, but also costs: incompatibility between different technologies; a spread-out, shallow pool of knowledge; and the underlying costs of developing parallel technologies that aren’t actually better. These costs matter.

Biomedical innovation illustrates the high costs of divergence. Although pharmaceuticals are touted as a poster child for patents, the world is rife with me-too drugs that drive up costs with little to show. Biomedical innovation often suffers from a particular trap: Patent incentives push innovators toward “new,” but incentives from Food and Drug Administration approval and insurer reimbursement push innovators toward “not too new,” because products that are very different are harder to get approved and reimbursed. And in this space, artificially constricted markets do a poor job of selecting better technologies. The result is a proliferation of technologies that are “new for the sake of new,” giving us the costs of divergence without much in the way of benefits.

This Article presents an original spectrum of innovative divergence, illuminates how various patent doctrines drive divergence, and lays out the substantial costs of divergence through biomedical examples. It analyzes the complex interactions between three different incentives for biomedical

innovation, and presents policy prescriptions to help avoid the trap of “new for the sake of new.” In the process, it lays out how innovation scholars and policymakers alike should take into account the cost of novelty.

IP & Litigation

Focusing patent litigation

Bernard Chao (University of Denver Sturm College of Law)

Chicago-Kent Journal of Intellectual Property, Forthcoming

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3362517

Patent litigation is often called the “sport of kings.” While that phrase may not be appropriate for all patent disputes, it is an apt description of the high-stakes cases. Attorneys in these lawsuits tend to zealously advocate for their respective sides by asserting every argument that they can legitimately raise. Patentees often assert an excessive number of patent claims and even pile on unnecessary patents. Some of these claims may be well-founded. But so long as they can make a colorable infringement argument, patentees typically include many weaker claims too. Likewise, patent defendants respond with burdensome and duplicative invalidity defenses. The accused infringers may also have sound invalidity defenses based on strong prior art. But typical defendants will assert mountains of far weaker prior art at the same time. Like the patentees, the only limiting principle is whether the defendant can make a colorable argument that is not sanctionable.

Naturally, these cases present a challenge to our already burdened court system. In his address for the 2018 Supreme Court IP review, Judge William Alsup described one technique, the “showdown” procedure; he has used to address these problems and force patent litigants to focus on the core issues of their dispute. This essay analyzes the showdown procedure and other similar procedures that were used in one of the most complex set of patent cases in history, *In Re Katz Interactive Call Processing Patent Litigation*. The common thread to these different approaches is that they do not just rely on sanctions. Instead, they are all designed to incentivize the parties to focus on the core issues in dispute and do away with their weaker arguments. Hopefully, this essay will help other courts narrow the issues in the complex patent cases on their docket.

Patent showdown at the N.D. Cal. Corral

Peter S. Menell (University of California, Berkeley – School of Law)

Chicago-Kent Journal of Intellectual Property Law (Forthcoming)

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3350176

Software patent cases often present dozens of claims requiring tremendous effort and years of costly litigation to reach a resolution. In a provocative essay, Judge William Alsup offers an innovative case management solution inspired by western frontier justice. As Judge Alsup warned attorneys in a recent case, tell your clients that “the day of reckoning is close at hand.”

Modeled after the famous “Shootout at the OK Corral,” the “Showdown at the N.D. Cal. Corral” aims to streamline patent litigation by requiring the patentee to choose its “best” claim and the defendant to

choose the “weakest” claim for an early summary judgment showdown. Judge Alsup emphasizes the potentially severe stakes: “injunction city” if the patentee prevails and “big” sanctions if the claims fail.

This article assesses whether Judge Alsup’s patent case management invention works for its intended purposes. Based on a review of the two showdowns to date, it concludes that the showdown procedure has yielded mixed results. The procedure, however, raises serious fairness concerns that could well lead to a bigger showdown at the Federal Circuit Corral.

Rising confusion about ‘arising under’ jurisdiction in patent cases

Paul R. Gugliuzza (Boston University School of Law)

Emory Law Journal, Vol. 69, *Forthcoming*

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3361240

By statute, all cases “arising under” patent law must be heard exclusively by the federal courts (not state courts) and, on appeal, by the Federal Circuit (not the twelve regional circuits). But not all cases involving patents “arise under” patent law. As recently as 2013, the Supreme Court ruled that the mere need to apply patent law in, for example, a malpractice case involving a patent lawyer, is insufficient to trigger exclusive jurisdiction. Rather, the Court held, for a case that does not involve claims of patent infringement to arise under patent law, the patent issue must be “important . . . to the federal system as a whole.”

Despite the Supreme Court’s clear holding that “fact-bound and situation-specific” patent issues do not warrant exclusive jurisdiction outside of infringement cases, the lower courts’ precedent in this area remains unsettled. The Federal Circuit has, at times, tried to resurrect its older case law extending exclusive jurisdiction to practically any patent-related tort, contract, or antitrust case. But, in other decisions, the Federal Circuit has constricted jurisdiction so dramatically that the Fifth Circuit, earlier this year, refused to accept a case transferred to it by the Federal Circuit, deriding the Federal Circuit’s jurisdictional ruling as not just wrong, but “implausible.” All of this uncertainty incentivizes costly and wasteful procedural maneuvering in a field where litigation is already notoriously expensive.

This article is the first to chronicle the rising confusion about the scope of the federal district courts’ and the Federal Circuit’s exclusive jurisdiction over cases arising under patent law. The article critiques the case law emerging in the lower federal courts and proposes a jurisdictional rule that is both clear and consistent with Supreme Court precedent: for a case that does not involve claims of patent infringement to nevertheless arise under patent law, it must present a dispute about the content of federal patent law or a question about the interpretation or validity of the federal patent statute.

In arguing for this new approach, the article also engages broader questions about the jurisdictional structure of patent litigation. Among other things, it suggests that the courts or Congress should rethink longstanding doctrine that makes the test for Federal Circuit appellate jurisdiction precisely the same as the test for exclusive original jurisdiction in the district courts. Exclusive district court jurisdiction entirely precludes state courts from shaping their own state’s law, so federal courts should be hesitant to exercise jurisdiction over a tort or contract claim simply because there is a patent lurking in the background. But when a patent-related case is properly in federal district court, the Federal Circuit’s expertise in patent law and ability to provide uniformity counsel in favor of giving the court a broad scope of appellate jurisdiction.

IP Law & Policy

The waiting is the hardest part: Does longer patent pendency mean more valuable patents?

Michael Ellenberger (Northwestern University, Pritzker School of Law)

Michael Ellenberger, The Waiting is the Hardest Part: Does Longer Patent Pendency Mean More Valuable Patents?, 16 NW. J. TECH. & INTELL. PROP. 189 (2019).

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3353737

The United States Patent and Trademark Office (USPTO) is one of the busiest — and slowest — patent offices in the world. The average utility patent is pending for 25.3 months before issuance. For parties that require legal protections in fast-moving technological fields, such as mobile technology startup, the waiting could be detrimental. Moreover, the patent backlog problems worldwide cost the global economy over \$10 billion per year. Even under such a delay, an increasing number of issued patents are threatened or invalidated in the U.S. court system.

Undoubtedly, then, if patents are considered to have “quality” only if they are both (a) valid and (b) litigation-proof, the USPTO is failing. If, however, instead the consideration is broadened as to what it means for a patent to be “high quality” — using the four “patent worth considerations” of market, signal, impact, and reputational value — then the situation looks far from disastrous. This note proposes to examine the time-value dynamic of a patent and evaluate whether, in consideration of a variety of metrics, long-pending patents are more valuable. In short, are patents worth the wait? This note concludes with proposals for a more efficient Patent Office through examination of existing functional policies both internal to the USPTO and abroad.

Immoral or scandalous marks: An empirical analysis

Barton Beebe (New York University School of Law)

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

Working Paper

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3368379

This article reports the results of a systematic empirical study of how the Patent and Trademark Office has applied trademark law’s prohibition on the registration of immoral or scandalous marks. We conducted this study for an amicus brief we submitted to the U.S. Supreme Court in *Iancu v. Brunetti*, 139 S. Ct. 782 (Jan. 4, 2019) (No. 18-302). In that case, the Supreme Court is considering whether the immoral-or-scandalous-marks provision runs afoul of the First Amendment’s Free Speech Clause. Our study shows, from multiple vantage points, that the Patent and Trademark Office applies the immoral-or-scandalous prohibition in an arbitrary, inconsistent, and viewpoint-discriminatory matter. On the basis of these empirical findings, we conclude that the bar on the registration of immoral-or-scandalous matter violates the Free Speech Clause because of a lack of fit between the purposes of the provision and the provision as enforced. The Patent and Trademark Office’s inconsistent and arbitrary enforcement also indicates unconstitutional vagueness. This article is based on the brief we submitted.

Technology & Copyright

Enjoining the cloud: Equity, irreparability, and remedies

Hannibal Travis (Florida International University College of Law)

Villanova Law Review, Vol. 64, 2019

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3352255

This article examines the tailoring of remedies in cases involving online infringement in particular. Courts are sometimes persuaded to enjoin entire websites or to order the defendant and its cloud service providers to end any use of the copyrights or trademarks at issue, while other courts limit their injunctions to the adjudicated conduct and the parties before them. The question sometimes arises whether a site-killing or device-killing order should issue in light of the defendant's infringement and third parties' facilitation of it, or whether the defendant should simply be ordered to desist from the infringing acts (and related parties from facilitating those specific acts). An increasingly prominent alternative is to withhold an injunctive remedy in view of the potential recovery of monetary relief. This article explores why, despite statutory language, case law precedent, and political consensus that website blocking should not occur, the sweeping remedy of site blocking (enjoining any facilitation of site access) continues to be available. It argues that site-blocking and orders to third parties not to index or provide services to a website are in tension with the Supreme Court's decision in *eBay*, the First Amendment case for narrowly targeted remedies when publishing and digital communication are at stake, the Digital Millennium Copyright Act's limiting language, remedial proportionality doctrine, and the failure of the Stop Online Piracy Act of 2011 in Congress. Remedial inequities are also emerging as between patent and copyright or trademark holders, because the bare loss of control of intellectual property is justifying copyright and trademark injunctions despite patent law cases suggesting that impaired exclusivity and negotiating leverage are not necessarily "irreparable injury."

The machine as author

Daniel J. Gervais (Vanderbilt University – Law School)

Iowa Law Review, Vol. 105, 2019

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3359524

The use of Artificial Intelligence (AI) machines using deep learning neural networks to create material that facially looks like it should be protected by copyright is growing exponentially. From articles in national news media to music, film, poetry and painting, AI machines create material that has economic value and that competes with productions of human authors. The Article reviews both normative and doctrinal arguments for and against the protection by copyright of literary and artistic productions made by AI machines. The Article finds that the arguments in favor of protection are flawed and unconvincing and that a proper analysis of the history, purpose, and major doctrines of copyright law all lead to the conclusion that productions that do not result from human creative choices belong to the public domain. The Article proposes a test to determine which productions should be protected, including in case of collaboration between human and machine. Finally, the Article applies the proposed test to three specific fact patterns to illustrate its application.

Technological learning and innovation gestation lags at the frontier of science: From CERN procurement to patents

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University of Milan Bicocca Department of Economics, Management and Statistics Working Paper No. 405

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3371025

This paper contributes to the literature on the impact of Big Science Centres on technological innovation. We exploit a unique dataset with information on CERN's procurement orders to study the collaborative innovation process between CERN and its industrial partners, mostly European firms. Since 19 out of the 23 Member Countries of CERN belong to the EU, public procurement for innovation through CERN can be seen as factor contributing to European innovation policies. After a qualitative discussion of case studies, survival and count data models are estimated; the impact of CERN procurement on suppliers' innovation is captured by the number of patent applications. The fact that firms in our sample received their first order over a long time span (1995-2008) delivers a natural partition of industrial partners into "suppliers" and "not yet suppliers". This allows estimating the impact of CERN on the hazard to file a patent for the first time and on the number of patent applications, as well as the time needed for these effects to show up. We find that a "CERN effect" does exist: being an industrial partner of CERN is associated with an increase in the hazard to file a patent for the first time and in the number of patent applications. These effects require a significant "gestation lag" in the range of five to eight years, pointing to a relatively slow process of absorption of new ideas.

Copyright Law

A reconsideration of copyright's term

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Alabama Law Review, Forthcoming

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3357965

For well over a century, legislators, courts, lawyers, and scholars have spent significant time and energy debating the optimal duration of copyright protection. While there is general consensus that copyright's term is of legal and economic significance, arguments both for and against a lengthy term are often impressionistic. Utilizing music industry sales data not previously available for academic analysis, this article fills an important evidentiary gap in the literature. Using recorded music as a case study, we determine that most copyrighted music earns the majority of its lifetime revenue in the first 5-10 years following its initial release (and in many cases, far sooner than that).

Our analysis suggests at least two results of interest to legislators, lawyers, and scholars alike: First, it contributes to the normative debate around copyright's incentive-access paradigm by proposing a more efficient conception of copyright's term for information goods; namely, one that replaces the conventional "life plus" durational standard with one based on the commercial viability of the average work. Second, it demonstrates that advocates' and legislators' tendency to focus on atypical works leads to overprotection of the average work, suggesting that copyright's term is not nearly as significant for copyright owners as conventional wisdom submits.

Trying to understand Article 13

Dirk J.G. Visser (Leiden Law School)

Working Paper

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3354494

Article 13 is the most important and most controversial provision of the proposed EU Directive on Copyright in the Digital Single Market on which the EU member states and institutions have reached agreement in principle in February 2019. The final vote will be in the European Parliament in late March 2019.

This paper aims at analyzing what the idea of article 13 is and how it might work out in practice. Which legal issues will arise, which preliminary questions will be put to the CJEU? It is not meant to argue for or against article 13. The article itself is taken as a given. This paper is merely a first attempt to look ahead and find out what could happen in practice.

What can internet intermediaries reasonably be expected to do?

In the end the courts will have to decide what the OCSSP's and other providers can reasonably be expected to do. Unfortunately, article 13 gives very little guidance for this. It rather describes and creates very elaborate contradicting objectives and obligations.

There will be a continuing discussion all over the world about what which kind of 'reasonable' internet intermediary can 'reasonably' be expected to do: pay (share advertising income or other income) and/or take preventive or repressive action regarding copyright infringement, while balancing fundamental rights, especially free speech. The same, probably even more important, discussion will continue regarding hate speech, fake news and any other kind of 'undesirable' information.

A hater's guide to geoblocking

Peter K. Yu (Texas A&M University School of Law)

Boston University Journal of Science and Technology Law, Vol. 25, 2019

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3361772

Geoblocking restricts access to online content based on the user's geographical location. Territorially based access control is strongly disliked, if not passionately hated, by those who travel abroad frequently as well as those who consume a considerable amount of foreign content. While the past has seen the use of geoblocking as technological self-help, such a technique has now received growing support from policymakers and judges.

Commissioned for a symposium on “Intellectual Property in a Globalized Economy: United States Extraterritoriality in International Business,” this article begins by briefly recounting five sets of arguments against geoblocking. The article then draws on the latest developments in Europe and at the World Intellectual Property Organization. It reiterates the need for copyright holders to adopt strategies to disseminate copyrighted content at the global level.

The second half of the article responds to the copyright industries’ increasing demands for the use of geoblocking to protect this valuable content. Although the discussion recognizes the continuously geographically segmented markets, it calls for a more appropriate balance between proprietary control and user access. Specifically, the article identifies five distinct ways for policymakers, judges and rights holders to shape geoblocking remedies.

Other IP Topics

Machines as the New Oompa-Loompas: Trade Secrecy, the Cloud, Machine Learning, and Automation

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

New York University Law Review, Vol. 94, 2019 Forthcoming

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3359746

In previous work, I wrote about how trade secrecy drives the plot of Roald Dahl’s novel *Charlie and the Chocolate Factory*, explaining how the Oompa-Loompas are the ideal solution to Willy Wonka’s competitive problems. Since publishing that piece, I have been struck by the proliferating Oompa-Loompas in contemporary life: computing machines filled with software and fed on data. These computers, software, and data might not look like Oompa-Loompas, but they function as Wonka’s tribe does: holding their secrets tightly and internally for the businesses for which these machines are deployed.

Computing machines were not always such effective secret-keeping Oompa Loompas. As this Article describes, at least three recent shifts in the computing industry — cloud computing, the increasing primacy of data and machine learning, and automation — have turned these machines into the new Oompa-Loompas. While new technologies enabled this shift, trade secret law has played an important role here as well. Like other intellectual property rights, trade secret law has a body of built-in limitations to ensure that the incentives offered by the law’s protection do not become so great that they harm follow-on innovation — new innovation that builds on existing innovation — and competition. This Article argues that, in light of the technological shifts in computing, the incentives that trade secret law currently provide to develop these contemporary Oompa-Loompas are excessive in relation to their worrisome effects on follow-on innovation and competition by others. These technological shifts allow businesses to circumvent trade secret law’s central limitations, thereby overfortifying trade secrecy protection. The Article then addresses how trade secret law might be changed — by removing or diminishing its protection — to restore balance for the good of both competition and innovation.

In-Text Patent Citations: A User's Guide

Kevin Bryan (University of Toronto - Strategic Management)

Bhaven N. Sampat (Columbia University - Mailman School of Public Health)

NBER Working Paper No. w25742

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3372038

We introduce, validate, and provide a public database of a new measure of the knowledge inventors draw on: scientific references in patent specifications. These references are common and algorithmically extractable. Critically, they are very different from the “front page” prior art commonly used to proxy for inventor knowledge. Only 24% of front page citations to academic articles are in the patent text, and 31% of in-text citations are on the front page. We explain these differences by describing the legal rules and practice governing citation. Empirical validations suggest that in-text citations appear to more accurately measure real knowledge flows, consistent with their legal role.

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