



Universities and Patent Demands

Andrew K. Cordova¹ and Robin Feldman^{2,*}

1. Program Associate at the Institute for Innovation Law, University of California Hastings College of the Law.

2. Harry and Lillian Hastings Professor of Law and Director of the Institute for Innovation Law,
University of California Hastings College of the Law.

* Corresponding author. E-mail: feldmanr@uchastings.edu

ABSTRACT

Research universities have made enormous contributions to the field of medicine and the treatment of human disease. Alone or in collaboration with pharmaceutical companies, academic researchers have added to the store of knowledge that has led to numerous life science breakthroughs. A new chapter may be opening for academic researchers, however, that could lead to a darker tale. ‘The mouse that trolled: the long and tortuous history of a gene mutation patent that became an expensive impediment to Alzheimer’s research, by Bubela et al., chronicles one such tale.’ The authors do an excellent job of bringing to life the twisting saga that engulfed numerous academic and non-profit Alzheimer’s researchers over many years. The authors note that the story is an outlier, but sadly, that may not be the case. There are increasing signs that academic researchers and their institutions are being caught up in the rush for gold that is accompanying the proliferation of the non-practicing entity business model. As I have noted before, academic institutions have a dual role, as keepers of the academic flame and guardians of the public monies entrusted to them through state and federal research funding. The specter of taxpayer money being used, not to advance research and for the betterment of society, but as part of schemes to extract money from productive companies may not sit well with voters, and ultimately, with legislators. In that case, researchers and institutions themselves may have much to lose.

‘The Mouse that Trolled: The Long and Tortuous History of A Gene Mutation Patent That Became an Expensive Impediment to Alzheimer’s Research’ describes an important case in which a gene mutation patent, owned by a non-practicing entity, was asserted against researchers studying the causes and effects of Alzheimer’s disease. Non-practicing entities (NPEs) are parties whose core activity involves licensing or

litigating patents, rather than making products. The article details nearly two decades of litigation—targeted at universities, foundations, and non-profits—and illustrates the immeasurable damage to disease research caused by the battle. Although the authors examine a single example of an NPE targeting biopharmaceutical research, observational evidence suggests that such cases will be neither rare nor uncommon across time, raising concerns about the way in which the public interest may be lost along the way. Particularly troubling is the possibility that universities themselves may increasingly partner with NPEs, in an effort to join the patent gold rush.

Universities play a dual role in society, serving both as keepers of the academic flame and as guardians of society's money. State and federal governments entrust universities with substantial amounts of research funding in the hope that academic minds can contribute to the store of knowledge that will lead to societal improvements in human health, technology, and other fields. And universities have, indeed, made profound contributions to knowledge and innovation, from which all of society has benefitted. In fact, in an effort to facilitate the translation of academic research into products for society, Congress adopted the 1980 Bayh-Dole Act.¹ Prior to Bayh-Dole, commentators had complained that the 'return on investment' from public research funding for universities failed to justify the dollars spent.² Bayh-Dole attempted to rectify that problem by allowing universities to control patenting and licensing of inventions created with federal money.³ The goal was to facilitate the creation of actual products from the storehouse of knowledge resulting from public funding of university research. In keeping with the idea that universities are trustees of public resources, Bayh-Dole created an environment in which universities would foster innovation through the commercial application of its patents.

Bayh-Dole flowed from the basic principle that patents are granted, not solely to reward the inventor, but rather to incentivize activity that benefits society as a whole.⁴ In granting patents, we temporarily remove items from the store of what would otherwise be free to all and reserved to none in the hopes that this will redound to the benefit of society at large.⁵ Thus, patents are not the natural right of an inventor, but rather are rights created by the sovereign in the United States for limited societal purposes.⁶

The federal government itself recently explored this concept in arguments before the Federal Circuit—the appeals court that hears cases related to patents—in *Astornet*

¹ Bayh-Dole Act, Pub. L. No. 96–517, 94 stat. 3018 [codified as amended at 35 U.S.C. §§ 200–12 (2012)].

² Howard Markel, *Patents, Profits, and the American People—The Bayh-Dole Act of 1980*, 369 N. ENG. J. MED. 794, 794 (2013) (describing the percentage of university patents funded by the federal government that did not result in commercial use).

³ Bayh-Dole Act, Pub. L. No. 96–517, 94 stat. 3018 [codified as amended at 35 U.S.C. §§ 200–12 (2012)].

⁴ See *Diamond v. Chakrabarty*, 477 U.S. 303, 305 (1980) [quoting *Kewanee Oil Co. v. Bicron Corp.* 416 U.S. 470, 480 (1974)] ('The authority of Congress is exercised in the hope that "[the] productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens").

⁵ Robin Feldman & John Newman, *Copyright at the Bedside: Should We Stop the Spread?*, 16 STAN. TECH. L. REV. 623, 628 (2013) ['[W]e grant rights to creators and innovators in the hopes that it will encourage creation and innovation, which we believe will redound to the benefit of society as a whole'].

⁶ Robin Feldman, *Federalism, First Amendment & Patents: The Fraud Fallacy*, 17 COLUM. SCI. & TECH. L. REV. at 32 (forthcoming, 2015), available at <http://ssrn.com/abstract=2616519> [discussing the dissenting opinion of Justice Scalia and Justice Alito in *Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.* in which patents rights are defined as not core property rights].

Technologies Inc. v. BAE Systems, Inc. In *Astornet*, the patent holder claimed that three government contractors had violated its patent with their equipment to authenticate boarding passes at airports.⁷ The court dismissed the claims under 28 U.S.C. §1498, which stipulates that when the government uses a patented invention, any patent infringement action must be taken against the United States and not the individuals of companies with whom it contracts.⁸

The government's *amicus curiae* noted that the US does not 'infringe' when it uses a patented invention without authorization, and commentators have pointed out that according to this characterization, one must never think of the US as an 'infringer,' but rather as a sovereign that has simply chosen to offer compensation.⁹ According to the brief, the court cannot interpret the U.S. government's actions as patent infringement. Rather, 28 U.S.C. §1498 stipulates that the only remedy for damages caused by the government's use of a patent is just compensation after a complaint has been raised in the U.S. Court of Federal Claims. In other words, the government can always use a patent without permission, as long as it provides compensation at a later date if and only if a court rules in favor of a complaint raised by a patent grantee. Therefore, the government may force compulsory licensing and is never actually a patent infringer. This is not to say that the patent grantee has no remedy against the government. Rather, 28 U.S.C. §1498 waives sovereign immunity and establishes the process by which an inventor can claim royalties. At the end of the day, however, the government's brief reminds us that patents are not granted for inventors to aggrandize their wealth but rather in the interest of society as represented by the sovereign.

Bayh-Dole, of course, is a manifestation of this principle. Having entrusted universities with public funds for research, the sovereign then gives universities the right to patent and license the fruits of that research. The intent is not to further fill the university's coffers with more money but to fill society's coffers with new products. In other words, under Bayh-Dole, universities are given control over the licensing system specifically to foster the creation of new commercial products for the benefit of society. NPEs, however, muddy the waters.

NPEs are individuals or businesses whose core activity involves licensing or litigating patents, rather than making products. NPEs make no products of their own but generate a return by asserting patents against companies that make products.¹⁰ Over the last few years, at least half of all the patent infringement suits filed in the United

⁷ *Astornet Technologies Inc. v. BAE Systems INC., Morphotrust USA, LLC, & NCR Government Systems, LLC*, Nos. 2014-1854, 2015-1006, 2015-1007, slip op. at 10 (Fed. Cir. Sept. 17, 2015), available at <http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/14-1854.Opinion.9-15-2015.1.PDF>.

⁸ 28 U.S.C. §1498 (a) (2015). 'Whenever an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same, the owner's remedy shall be by action against the United State in the United States Court of Federal Claims...'

⁹ Brief for the United States at Amici Curiae Supporting the Defendants-Appellees, *Astornet Technologies, Inc. v. BAE Systems, Inc. et al.* at N. 6 (Fed. Cir., 2015) (Nos. 2014-1854, 2015-1006, 2015-1007); Dennis Crouch, Can the U.S. Government Infringe a U.S. Patent? (The U.S. Government Says It's Impossible), Patently-O (Sept. 20, 2015), available at <http://patentlyo.com/patent/2015/09/government-infringe-impossible.html>.

¹⁰ Robin Feldman & Mark A. Lemley, *Do Patent Licensing Demands Mean Innovation?*, 101 IOWA L. REV. (forthcoming, 2015).

States have been filed by NPEs.¹¹ Often referred to as patent trolls, many scholars and commentators have argued that NPEs simply create a tax on production—the production of companies already making products. Although one could conceivably argue that they play some role in the innovation system,¹² whatever role they play, NPEs certainly do not make new products. They also do not appear to connect inventors with others who make new products out of their inventions.¹³

Traditionally, universities have avoided engaging in widespread patent litigation. For example, a study of 15,000 patent lawsuits filed across four years in the United States found that NPEs filed a majority of those suits.¹⁴ Universities accounted for only one half of one percent of all first-named plaintiffs, making them almost invisible in the dataset.¹⁵

Universities have also traditionally avoided partnering with NPEs. In fact, the Association of University Technology Managers (AUTM) released a public interest statement on ethical technology transfer principles in 2007, which universities could sign. The statement is advisory, not mandatory—setting out guidelines for best practices, rather than requirements. For those universities that signed the statement, the code specified that universities should not operate under a business model that is predicated on infringement litigation rather than commercialization to create products. AUTM, which includes some members who are already licensing technology to NPEs, has decided to reexamine the code.¹⁶ Even if AUTM upholds its original statement, however, it is possible that universities increasingly will license technology to the highest bidder, regardless of whether any new commercial products will result.

Money is tempting, and the lure for universities to monetize their patents is becoming irresistible. For example, Intellectual Ventures, one of the largest patent holding companies in the United States and a notorious NPE, claims that it has handled patent licensing for 60 American universities but acknowledges that only two of which (Duke and Caltech) have led to commercial products.¹⁷ Notably, both Duke and Caltech had signed the 2007 AUTM Statement opposing transferring patents to NPEs.¹⁸ In addition, press reports have identified examples of patents funded by federal programs that have been transferred to NPEs.¹⁹ Faced with the incentive to profit from research, at least some universities appear to be shifting away from the policy of avoiding NPEs. As the practice spreads, there is a significant risk that more and more universities will be

¹¹ See eg Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2118–21 (2013).

¹² But see Robin Feldman & Mark A. Lemley, *Do Patent Licensing Demands Mean Innovation?*, 101 IOWA L. REV. (forthcoming, 2015).

¹³ See *Id.*

¹⁴ Robin Feldman, Tom Ewing & Sara Jeruss, *The AIA 500 Expanded: The Effects of Patent Monetization Entities*, 17 UCLA J.L. & TECH. 1, 7 (2013).

¹⁵ Robin Feldman, Tom Ewing & Sara Jeruss, *The AIA 500 Expanded: The Effects of Patent Monetization Entities*, 17 UCLA J.L. & TECH. 1, 59 (2013).

¹⁶ Paul Basken, *Under Financial Pressure, Universities Give Patent Buyers a Closer Look*, CHRON. HIGHER EDUC., Oct. 25, 2013, available at <http://chronicle.com/article/Under-Financial-Pressure/142613/>.

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ Heidi Ledford, *Universities Struggle to Make Patents Pay*, 501 NATURE 471–472 (2013) <http://www.nature.com/news/universities-struggle-to-make-patents-pay-1.13811>.

rushing into the waiting arms of NPEs. In this case, universities may end up fueling the type of litigation that hindered Alzheimer's researchers, as chronicled in 'The Mouse that Trolled'.

Moreover, these new university commercialization methods may have particularly serious consequences for the life science industry. Many people wrongly believe that biotechnology and the pharmaceutical industry are immune to NPE litigation. However, a study of the patent holdings in the fiscal year 2011 of five universities (the University of California system, MIT, the University of Texas system, Caltech, and the University of South Florida) identified numerous patents that could be deployed with the same techniques that patent trolls have used in the technology sector. These included patents on active ingredients of existing drugs, methods of treatment, screening methods to identify new drugs, manufacturing methods, dosage forms, as well as related technologies.²⁰

If universities continue to move toward interactions with NPEs, such portfolios will provide tempting morsels to feed the patent trolling appetite, and could help drive patent trolling more toward the life sciences, a result that cannot be good for life science innovation. It would be troubling if taxpayer money that flows to universities ends up fueling patent trolling, rather than encouraging the creation of new products. In that case, the implicit agreement between the public and the research it funds would be disrupted.

'The Mouse that Trolled: The Long and Tortuous History of A Gene Mutation Patent That Became an Expensive Impediment to Alzheimer's Research' tells the cautionary tale of the ways in which NPEs, through patent assertion, hinder progress that affects the public. It is clear, however, that there will be similar examples in the future. The authors' tale not only casts doubt on the NPE model; it should also make us think deeply about the role that the public expects universities to play in society. The public interest requires that universities act responsibly with public funding and remain dedicated to society's benefit. University patent monetization via NPEs both fails the spirit of Bayh-Dole and damages the public's trust.

ACKNOWLEDGEMENT

We thank Evan Frondorf for editing and research assistance.

²⁰ Robin Feldman & W. Nicholson Price II, *Patent Trolling: Why Bio & Pharmaceuticals are at Risk*, 17 STAN. TECH. L. REV. 773, 783 (2014).