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Comment: On Patents And Appropriations—And Tragedies

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Comment: On Patents And Appropriations—And Tragedies

David O. Taylor*

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I write to provide a few remarks concerning Sasha Hoyt’s illuminating work published in the pages of this journal. In it, Hoyt addresses the impact of the Supreme Court’s patent eligibility decisions on private investment in the development of medical diagnostic technologies.¹ As an initial matter, I want to congratulate Hoyt for tackling an important topic. As Hoyt discusses, medical diagnostic technologies enable the diagnosis of diseases and other medical conditions such as genetic disorders, and early and accurate diagnosis may lead to early treatments and, ultimately, at least in some cases, saved lives.² But the creation of medical diagnostic technologies often comes at great cost,³ and so a relevant question thus becomes how to

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1. Sasha Hoyt, Note, *The Impact of Uncertainty Regarding Patent Eligible Subject Matter for Investment in U.S. Medical Diagnostic Technologies*, 79 WASH. & LEE L. REV. 393 (2021).

2. *Id.* at 402.

3. *Id.* at 402–03.

fund the underlying work required to create these technologies. The two options up for consideration, broadly speaking, are private and public investment. Hoyt addresses the former by collecting and analyzing data to determine the role of utility patents—and in particular patent eligibility law—in supporting private investment.⁴ Given her analysis and conclusions, here I highlight the latter option, public investment.

I. PRIVATE INVESTMENT AND THE PATENT SYSTEM

One of the many geniuses of the United States Constitution is that it authorizes Congress not only to “lay and collect Taxes”⁵ and “provide for the . . . general Welfare of the United States”⁶—which surely authorizes Congress to spend tax monies on the development of technologies—but also to “promote the Progress of . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries.”⁷ In short, the federal government may not only invest directly in technological development—so-called *public* investment—but it may also create legal rights to incentivize or reward *private* investment in technological development. As it turns out, the federal government has done both. It spends money on research and development of technologies, for example through grants controlled by the National Institute of Health.⁸ But also, since practically the beginning, it has encouraged private investment in research and development of technologies through the use of a utility patent system. Indeed, in 1790 Congress and President Washington enacted the first utility patent law, exercising their authority under the Constitution to create this law to reward inventors for their discoveries.⁹

But the Supreme Court has recently taken a narrow view of the Constitution’s authorization of laws granting the “exclusive

4. *Id.* at 437–39.

5. U.S. CONST. art. I, § 8, cl. 1.

6. *Id.*

7. *Id.* art. I, § 8, cl. 8.

8. See generally Peter L. Singer, *Federally Supported Innovations: 22 Examples of Major Technology Advances That Stem from Federal Research Support*, INFO. TECH. & INNOVATION FOUND. (2014), <https://perma.cc/6CH9-7WSQ> (PDF).

9. Patent Act of 1790, ch. 7, 1 Stat. 109, 109–112.

right” to “discoveries.”¹⁰ Professor Jeff Lefstin has demonstrated that, historically, the Supreme Court understood that any practical use of a newly discovered law of nature or physical phenomenon may be patented.¹¹ But in 2012, the Supreme Court—without apparently understanding it was doing so—dramatically changed the law.¹² In *Mayo Collaborative Services v. Prometheus Laboratories*,¹³ Justice Breyer ruled on behalf of the Court that something “significantly more” would be required—not a “practical” use of a newly discovered law of nature or physical phenomenon, but instead an “inventive” use of the newly discovered law of nature or physical phenomenon.¹⁴ The Court later explained that the inquiry requires searching the claims of a patent application or patent, not for a useful application of a discovery (the traditional test), but instead for that elusive something it calls an “inventive concept.”¹⁵ Thus, where we currently sit, a claim describing a useful application of law of nature or natural phenomenon is not eligible for patenting unless it includes an “inventive concept.”

One of the many problems with the Court’s holding—besides changing the law dramatically without even understanding it was doing so—is that no one really knows what more is needed to make a discovery eligible for patenting.¹⁶ No one has a clear idea of what qualifies as an inventive application of a law of nature or physical phenomenon.¹⁷ I certainly view this as problematic. Indeed, to spur investment in technological development one might imagine it particularly helpful for the law to draw lines clearly delineating subject matter eligible for patenting from subject matter ineligible for patenting.

10. See *Mayo Collaborative Servs. v. Prometheus Lab’ys, Inc.*, 566 U.S. 66, 72–73 (2012).

11. See generally Jeffrey A. Lefstin, *Inventive Application: A History*, 67 FLA. L. REV. 565 (2015).

12. *Mayo*, 566 U.S. at 72–73; see David O. Taylor, *Confusing Patent Eligibility*, 84 TENN. L. REV. 157, 181–82 (2016) [hereinafter Taylor, *Confusing Patent Eligibility*] (highlighting the *Mayo* Court’s misunderstanding of patent law).

13. 566 U.S. 66 (2012).

14. *Id.* at 72, 92; see also *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 217 (2014) (characterizing the inventive concept from *Mayo* as “something more”).

15. *Alice*, 573 U.S. at 217.

16. See Taylor, *Confusing Patent Eligibility*, *supra* note 12, at 222–23.

17. *Id.*

In my own research, therefore, I sought to find data to analyze how this significant change in the law impacted investors in technological development. I conducted a survey of venture capital and private equity investors and found the impact of the Supreme Court's change in the law in the attitude of investors.¹⁸ In my survey, venture capital and private equity investors reported that the Supreme Court's decisions reduced the likelihood that their firms would invest in pharmaceutical, medical device, and biotechnological development.¹⁹ For example, they reported they would shift investment out of these areas into other areas like computer hardware and energy.²⁰

My survey generated significant interest, in part, I believe, because it presented data rather than opinions or suppositions regarding the impact of the Supreme Court's change in patent eligibility law.²¹ In fact, as a result of my survey, I was asked to testify (and did testify) before the Intellectual Property Subcommittee of United States Senate's Committee on the Judiciary.²² In his opening remarks, one of the Senators who convened the hearing even quoted the results of my study.²³

But in my report on my study, I expressly recognized that *revealed* preferences are more important than *expressed* preferences.²⁴ That is, people may say (or bluster) that they will do something in the future, but when it comes time to take action, they may falter and do something other than what they predicted they would do. I said, "Future work may be able to confirm these negative effects, for example by exploring revealed preferences through actual investment behaviors of venture capital and private equity investors."²⁵ That is why Hoyt's study is so important and revealing. Consistent with my

18. David O. Taylor, *Patent Eligibility and Investment*, 41 CARDOZO L. REV. 2019, 2042–85 (2020) [hereinafter Taylor, *Patent Eligibility*].

19. *Id.* at 2066.

20. *Id.* at 2075.

21. *Id.* at 2042–85.

22. *The State of Patent Eligibility in America: Part I: Hearing Before the Subcomm. on Intell. Prop. of the S. Comm. on the Judiciary*, 116th Cong. 1:16:25–1:20:40 (2019) (testimony of David O. Taylor), <https://perma.cc/TS3Z-2BE8>.

23. *Id.* 14:55–15:15 (statement of Senator Coons).

24. Taylor, *Patent Eligibility*, *supra* note 18, at 2090.

25. *Id.* at 2094.

survey, her difference-and-difference method of analysis of actual investment data shows that investors, indeed, as a result of the Supreme Court's change in the law, *changed* their investment behavior, and, in particular, reduced investment in the development of medical diagnostic technologies.²⁶

Critics of my work—typically those paid by companies who benefit from the elimination or weakening of patent protection over new technologies—criticized my survey by pointing out that investments in technological development actually increased after the Supreme Court's decisions. My response has always been consistent with logic: “just imagine *how much more* those investments would have increased had the Supreme Court not changed patent eligibility law so dramatically to reduce the likelihood of eligibility.” Indeed, Hoyt's work confirms that, while venture capital investments in diagnostic technological development may have increased over time, there would have been even more venture capital investment in this area had the Supreme Court not changed the law of patent eligibility.²⁷ This is a significant finding. Patents matter, and, more specifically, patent eligibility matters, with respect to venture capital investment in the development of medical diagnostic technologies.

II. PUBLIC INVESTMENT: TAXATION AND APPROPRIATION

And now, recognizing the fact that the Supreme Court's alteration of patent eligibility law reduced venture capital investment in the development of medical diagnostic technologies, I want to return to where I started. Hoyt's finding highlights only that the Supreme Court's change in patent law reduced *private* investments that otherwise would have occurred. But an alternate avenue for investment in technological development, as I mentioned, is *public* investment—the tax and appropriations mechanisms of our federal government. Hoyt's research, at a minimum, raises two responsive questions: Have Congress and the President stepped in to fill the gap left by diminished private investment in diagnostics? And, whether they have or not, should they? Hoyt's

26. Hoyt, *supra* note 1, at 441–42.

27. Hoyt, *supra* note 1, at 436–42.

Note does not explore these questions, but I believe they deserve consideration given her research.

But Hoyt's research also raises broader, more fundamental questions concerning investment in research and development generally. In particular, what is the optimal level of investment in technological development? And how should the optimal level be determined? More investment, of course, cannot always be better. At some point, public and private monies would be more effective at benefiting society when spent on other endeavors. I am confident in predicting that no one would argue the United States government should spend all tax dollars developing one type of technology. Likewise, it is unlikely any private investor would invest only in the development of one type of technology—that would be too risky. And beyond the obvious self-interested reasons constraining the actions of private investors, society would not benefit if everyone invested in the development of the same few technologies.

But these questions and considerations merely highlight another of the ingenious aspects of the patent system envisioned by the Constitution. Rather than authorize a central manager (i.e., the government) to decide how much money to invest in technological development—with all the lobbying, back room deals, and impossibility of making perfect decisions—the patent system leaves it to private investors, spurred by the availability of property rights on the fruits of their investments, to decide which technologies to invest in and at what level. In short, the patent system creates a market in technology by creating the necessary, underlying property rights that may be bought and sold in that market. And investors compete with one another in this market, picking and choosing inventors who they believe will provide the greatest return on their investments. This is the system Congresses- and Presidents-past adopted, again beginning in 1790.

But it is not the modern Supreme Court's apparent policy preference, at least with respect to what the Court deems "the underlying 'building-block' concern."²⁸ Ignoring (or more likely, simply not realizing) the Supreme Court's own historical precedent distinguishing claims to natural laws (which have

28. *Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc.*, 566 U.S. 66, 89 (2012).

never been eligible) from practical uses of natural laws (which were always eligible until *Mayo*), the Supreme Court simply throws in the towel. According to Justice Breyer, “[c]ourts and judges are not institutionally well suited to making the kinds of judgments needed to distinguish among different laws of nature.”²⁹ In short, rather than rely on the system created by Congresses- and Presidents-past, the modern Supreme Court substituted its own view that patents are not necessary to encourage investment in competing technology creators.

The Supreme Court now evidently prefers a “commons”—technology that is free from patent rights. A critic of the Supreme Court might point to the tragedy of the commons—the idea that in the absence of property rights, there will not be sufficient private investment or care taken with respect to the property in question.³⁰ In that regard, at least we know based on Hoyt’s research that those working to develop medical diagnostic technologies have not attracted the same level of private investment in the absence of patent protection.³¹ And make no mistake: in the absence of public investment making up the shortfall, this bears the hallmarks of a true tragedy given that these technologies, as mentioned, diagnose diseases and other medical conditions to permit early and accurate diagnoses leading to early treatments and, ultimately, at least in some cases, saved lives.³²

CONCLUSION

Hoyt’s work is important—insightful with respect to a matter of significant impact on public health—and as a result calls for extended consideration. Indeed, were the Senate to convene new hearings on legislation to overrule the Supreme Court’s radical reworking of patent eligibility law, I would not be surprised to hear Sasha Hoyt called to testify concerning her study. And deservedly so. Congratulations to Sasha on her work and Note. I look forward to seeing where this project takes her and her career.

29. *Id.*

30. See generally Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

31. Hoyt, *supra* note 1, at 436–42.

32. See *id.* at 402.