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## Impartial Patents

Clarisa Long  
*Columbia Law School*, [clong@law.columbia.edu](mailto:clong@law.columbia.edu)

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# COLUMBIA LAW REVIEW

## SIDEBAR

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### IMPARTIAL PATENTS

*Clarisa Long\**

*Response to: Gideon Parchomovsky & Michael Mattioli, Partial Patents, 111 Colum. L. Rev. 207 (2011).*

#### I. THE PARTIAL PATENT PROPOSAL

Over the past decade or more, a rising sense of dissatisfaction with patent law has begun to creep across the patent community.<sup>1</sup> A number of factors no doubt have contributed to this sense of dissatisfaction, among them the perception that patents are too often being enforced by “trolls” (if you don’t like them) or “nonpracticing entities” (if you want to remain neutral).<sup>2</sup> Professor Parchomovsky and Mr. Mattioli propose a solution in which they create two new forms of patent protection that they call “quasi-patents” and “semi-patents”—or generically, “partial patents.”<sup>3</sup> Partial patents are designed to be cheaper to obtain than existing alternatives, but an owner of a quasi-patent would be able to enforce that patent only against direct competitors, whereas in the case of a semi-patent, an inventor would have heavier burdens of disclosure.<sup>4</sup>

The authors are to be praised for grappling with a difficult problem within the patent system and proposing creative solutions. Their proposed solutions do not use the force of the state to strip patentees of existing entitlements, but rely instead on would-be patentees to opt in to new forms of protection. While

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\* Max Mendel Shaye Professor of Intellectual Property Law, Columbia Law School. © 2011. Andrew E. Krause provided excellent research assistance.

1. See, e.g., Fed. Trade Comm’n, To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy ch. 5, at 1–10 (2003), available at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf> (on file with the *Columbia Law Review*) (listing examples).

2. The FTC has recently coined yet another term for entities that enforce patents on inventions they do not practice or sell in the stream of commerce: Patent Assertion Entity. Fed. Trade Comm’n, The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition 8 n.5 (2011), available at <http://www.ftc.gov/os/2011/03/110307patentreport.pdf> (on file with the *Columbia Law Review*).

3. Gideon Parchomovsky & Michael Mattioli, Partial Patents, 111 Colum. L. Rev. 207, 208 (2011).

4. *Id.* at 226–33.

provocative, the proposed solution of creating new forms of patent protection is an indirect response to the real problem, however, and has the potential to create further difficulties.

One of the problems Parchomovsky and Mattioli identify—that of patentees enforcing patents against defendants when the patentee is not producing the same product that the defendant is selling—often arises when the patent is overbroad. In an attempt to address the problem of patent overbreadth, the authors' proposed quasi-patents would make a defendant's economic status relative to the plaintiff a key element determining the defendant's liability. By contrast, one of the strengths of the existing patent system is that an accusation of infringement focuses on the alleged conduct of the defendant.<sup>5</sup> Liability does not turn on the defendant's economic status.

When it comes to the treatment of defendants on the basis of their characteristics, the patent system should remain impartial. The patent system should not use the defendant's economic status as a proxy for determining if the plaintiff's patent is overbroad. Part II of this Response demonstrates why the problem of patent overbreadth often arises. Part III shows a few pitfalls of using the defendant's economic status as a proxy for patent overbreadth. Part IV points out that the problem of patent overbreadth can be addressed more directly.

## II. THE REAL PROBLEM: THE INVENTION-CLAIM GAP

The problem of patent overbreadth is created by the way the patent system allows inventions to be claimed. The current patent system and its rules for claiming an invention permit the scope of a patent's claims to exceed—even greatly exceed—the technological problem the patentee has attempted to solve.

In a patent document, the claims define the scope of protection.<sup>6</sup> The name of the game for patent drafters, therefore, is to write patent claims worded to cover as much ground as possible. If there is no prior art that limits the scope of the claims to a particular use, a patentee need not confine the scope of her claims to a particular use. If the claims are written in just the right way, a clever patentee can exclude others from uses of the invention that the patentee did not know of at the time the patentee invented.

Here is a simple example. Suppose Inventor Number One invents a new chemical compound, which she calls "Compound X." Inventor Number One knows little about the practical properties of Compound X. Nonetheless, under patent law's utility requirement, she must recite one real-world, nonfrivolous use for the invention in order for it to qualify for patent protection.<sup>7</sup> One day the inventor spills Compound X on herself and realizes that it dyes cotton cloth blue. Even if Compound X serves as a mediocre dye at best, use as a dye

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5. See 35 U.S.C. § 271(a) (2006) (defining an infringer as "whoever without authority makes, uses, offers to sell, or sells any patented invention").

6. See *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989) ("A claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using, or selling the protected invention.").

7. See 35 U.S.C. § 101 (setting forth the utility requirement).

nonetheless constitutes a real-world, nonfrivolous use. Thus, our intrepid inventor can assert this real-world use in order to fulfill the utility requirement for patenting. The scope of her claims, however, can cover uses other than the one recited to fulfill the utility requirement. Moreover, assuming there was no prior art to limit her claims, her claims need not be confined to—or even mention—the use or uses of her invention of which she is aware. Claim 1 of her patent would typically read: “I claim a compound of the formula” followed by a recitation of the chemical structure.<sup>8</sup>

The inventor receives her patent and begins selling Compound X as a dye for clothes.<sup>9</sup> Alas, Compound X is not an improvement over other dyes on the market, as it is not colorfast and also causes some users to have a mild allergic reaction. Suppose that fifteen years after the patent issues, Inventor Number Two purchases a bottle of Compound X and discovers that Compound X has tumor-shrinking properties. Inventor Number Two, having purchased the dye for use, has not infringed the patent because patent law’s exhaustion doctrine allows her to use the invention once she has purchased it.<sup>10</sup>

Inventor Number Two would not be able to synthesize and market the compound herself, whether as a cancer treatment or for any other use, without a license from Inventor Number One because that would be a violation of Inventor Number One’s patent, and would not be protected by the exhaustion doctrine. Use of the dye as a cancer treatment likely has a higher market value than use as a dye, so Inventor Number One is in a powerful bargaining position. Because patents are bundles of strong exclusionary rights that are usually protected by injunctions, Inventor Number One has the power to set the price and the terms under which Inventor Number Two will carry out her invention.<sup>11</sup>

The problem with Inventor Number One’s patent lies in the gap between the wording of the patent’s claims (in my example, “a compound of the formula . . .”) and the invention the patentee actually created (use of that compound as a dye).<sup>12</sup> An invention, in the words of one commentator, is

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8. Assume for simplifying purposes in this hypothetical that there is only one claim in the patent, which would not be the case in real life, as inventors would be well-advised to have multiple claims covering the invention for maximum protection in the event that a challenger was able to get one or more claims invalidated in litigation. The validity of a patent is judged on a claim-by-claim basis. 35 U.S.C. § 282 (“Each claim of a patent . . . shall be presumed valid independently of the validity of other claims.”). A challenger must therefore knock out all the claims in a patent in order to get the patent invalidated.

9. Let us suppose that receiving regulatory approval under the Food, Drug, and Cosmetic Act of 1938 for use of Compound X as a dye is not a problem. See 21 U.S.C. § 379e (2006) (governing the regulation of color additives).

10. According to the exhaustion doctrine, an unconditional sale of a patented invention exhausts the patentee’s right to control the purchaser’s use of the invention. See *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1426 (Fed. Cir. 1997) (discussing the exhaustion doctrine).

11. See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 390 (2006) (requiring courts to use traditional four-factor test when determining whether to grant injunctions in patent infringement cases).

12. Professor Oskar Liivak has written about this gap as well. See generally Oskar Liivak, *Rescuing the Invention from the Cult of the Claim* (Feb. 24, 2011) (unpublished manuscript), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1769270](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1769270) (on file with the *Columbia Law Review*).

“simply the inventor’s own solution to some technical problem.”<sup>13</sup> The invention is not always coterminous with the claims. Overbreadth becomes problematic when the claims give the patentee exclusionary rights to solutions to technical problems that the patentee did not know at the time of patenting.

For some commentators, the invention-claim gap is a feature of the patent system, not a bug.<sup>14</sup> These commentators point out that the invention-claim gap provides a super-reward, if you will, for inventors who create technologies that later inventors can build on. This is a heightened incentive to create pioneering inventions. For other commentators, the invention-claim gap is unacceptably inefficient and wasteful.<sup>15</sup> On this second view, a patentee should not be able to extract rents for uses she did not invent, let alone research. Thus, given that the patent system is supposed to provide incentives to invent, the invention-claim gap produces a reward disproportionate to the patentee’s actual contribution to the art.

Although they do not frame their analysis in terms of the invention-claim gap, Parchomovsky and Mattioli fall in the latter group of commentators.<sup>16</sup> To solve the problem of patent overbreadth, one of their solutions would allow patentees to enforce their patents only against direct competitors. Quasi-patents attempt to address the invention-claim gap by creating two classes of defendants: direct competitors to the patentee, and everyone else. The authors implicitly treat direct competitors as constituting a proxy for parties who are likely to practice the patentee’s invention (as opposed to parties practicing technologies covered by the patentee’s claims but not the inventor’s own solution to a technical problem). If this proxy is robust, parties who fall into the invention-claim gap would not be practicing the patentee’s invention, even if their activity is within the scope of the patent’s claims, and thus would be exempt from liability. Parchomovsky and Mattioli’s quasi-patents would make a defendant’s economic status relative to the plaintiff a key element that determines its potential liability.

### III. THE IMPORTANCE OF IMPARTIALITY

The invention-claim gap is an under-discussed problem in the literature, and one that has been sneaking up on us for some time, so Parchomovsky and Mattioli’s article is timely and thought-provoking. Making the economic status of the defendant a key element determining liability, however, has the potential to create a number of unintended consequences. This Response discusses two: (1) the problem of strategic behavior by patentees and potential defendants, and (2) the potential for political capture by interest groups.

Economic status is a suboptimal proxy for a defendant’s behavior (i.e., whether the defendant’s actions fall within the invention-claim gap), not least

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13. *Id.* at 6.

14. On a related note, see generally Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 *J.L. & Econ.* 265 (1977) (suggesting that granting a patentee broad rights over the invention allows for optimal downstream coordination of follow-on inventions).

15. See, e.g., Liivak, *supra* note 12, at 42 (“By seeing the invention as a substantive concept the patent system can improve completeness, accuracy, and precision.”).

16. See Parchomovsky & Mattioli, *supra* note 3, at 213–19 (discussing patent overbreadth).

because economic status is easily manipulable. One of the existing patent code's virtues is that liability under patent law does not turn on the economic status of the accused infringer. The importance of nondiscrimination on the basis of economic status in patent law cannot be understated. If the defendant's economic status were an element of liability, then both the plaintiff and defendant would have the incentive to manipulate a legal finding of the parties' economic status relative to each other. In order to determine whether the defendant was a direct competitor to the patentee, the court would need to define the relevant market. Parchomovsky and Mattioli believe that determinations of the parties' economic status relative to each other will usually be straightforward,<sup>17</sup> but in antitrust cases, which also call for courts to define markets and determine whether parties are competitors, such fact-intensive inquiries have frequently proven thorny, contentious, and time-consuming.<sup>18</sup>

In order to avoid liability, potential defendants would need to anticipate with sufficient accuracy whether a court would deem them to be a direct competitor of the patentee. This may not be possible, even under the best of circumstances. If a risk-averse potential defendant cannot determine in advance whether the patent would be enforceable against it because it cannot determine its status relative to the patentee, then quasi-patents default to being treated the same as standard utility patents.

Even if the competitive relationship between a potential defendant and a patentee can be determined in advance, problems remain. If a direct competitor wanted to infringe a quasi-patent, it could contract with a nondirect competitor of the patentee to make, use, or sell the allegedly infringing product, thereby skirting direct infringement. Under such a circumstance, could patentees bring suit against the direct competitor for indirect infringement? It appears unlikely. Under the patent statute, no party can be liable for indirect infringement unless direct infringement of the patent by some party has occurred, and the patentee would not have standing to allege direct infringement of a quasi-patent against a noncompetitor.<sup>19</sup>

Similarly, patentees could collude with other entities to enforce the patent against defendants who would not otherwise be liable. For example, a patentee could effectively create the ability to enforce the patent against a noncompetitor by selling the patent to an entity that was a direct competitor of the potential defendant at a discount, in exchange for a promise by the buyer of

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17. See *id.* at 228 (“In most cases, this determination [of whether the parties are direct competitors] will be straightforward.”).

18. See, e.g., *Todd v. Exxon Corp.*, 275 F.3d 191, 199 (2d Cir. 2001) (Sotomayor, J.) (“[M]arket definition is a deeply fact-intensive inquiry . . . .”); *United States v. Oracle Corp.*, 331 F. Supp. 2d 1098, 1121 (N.D. Cal. 2004) (“[D]efining the relevant market in differentiated product markets is likely to be a difficult task.”); see also Dennis W. Carlson, *Market Definition: Use and Abuse 5* (U.S. Dep’t of Justice Antitrust Div. Econ. Analysis Grp., Discussion Paper No. 07-6, 2007), available at <http://www.justice.gov/atr/public/eag/225693.pdf> (on file with the *Columbia Law Review*) (“[T]he direct determination of the level of market power is going to be hard no matter what definition is used.”).

19. See *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 n.7 (1960) (“[T]here can be no contributory infringement in the absence of direct infringement.”).

the patent—now the new patentee<sup>20</sup>—to sue the alleged infringer and give the seller a portion of the proceeds if the suit succeeds. If patentees could manipulate the relative economic status of the parties so easily merely by selling the patent to a direct competitor of the alleged infringer, thus changing who was the patentee, this would eviscerate the limited liability that a quasi-patent provides potential defendants. Quasi-patent holders would thus get the benefits of a quasi-patent up front (reduced costs and time spent prosecuting the patent) but could do an end run around its limitations.

Because partial patents require patentees to opt in voluntarily, creating new forms of protection may not create a separating equilibrium that cabins the behavior of “bad types.” “Good types”—patentees who have no intention of taking advantage of the invention-claim gap, or of engaging in classic “trollish” behavior—may or may not opt in. In either case, it makes little difference since good types are not engaging in the kind of behavior that Parchomovsky and Mattioli are trying to prevent. But “bad types”—patentees who expect to engage in rent-extracting trollish behavior or who strategically withhold information in the patent prosecution process—have little incentive to opt into forms of protection that effectively limit their enforcement options or require more disclosure up front without getting significant benefits for doing so. Whether faster or cheaper patent prosecution, a longer term of protection, or other benefits that the authors propose can compensate bad types for forgoing the full opportunity to extract rents remains unclear.<sup>21</sup> Alternatively, if bad types can escape the limitations of partial patents as I have described above, they may opt in so as to reap the benefits of such forms of protection up front, but then strategically avoid the costs later.

My second concern, the potential for political capture of patent law by interest groups, is more conceptual. Patent law’s impartiality toward the economic status of defendants is a feature that has made capture by interest groups more difficult.<sup>22</sup> When compared with the copyright code, the difference is striking and notable. In copyright law, the success of interest groups in creating statutory provisions that adjust liability on the basis of status has been well noted.<sup>23</sup> Such success creates conditions for further statutory capture by interest groups in an ever-spiraling vicious cycle.<sup>24</sup> While Parchomovsky and Mattioli’s proposal would create exemption from liability

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20. A patentee includes “successors in title” to an original patent holder. 35 U.S.C. § 100(d) (2006).

21. See Parchomovsky & Mattioli, *supra* note 3, at 247–52 (proposing various incentives for patentees to receive partial patents).

22. See Clarisa Long, *Our Uniform Patent System*, Fed. Law., Feb. 2008, at 44 (advocating against industry-specific rules in patent law).

23. See, e.g., Jessica Litman, *Copyright Legislation and Technological Change*, 68 Or. L. Rev. 275, 351–52 (1989) (giving example of nonprofit libraries). A few other examples of status-based exemptions from liability under the copyright statute include exceptions to the public performance right for nonprofit educational institutions, 17 U.S.C. § 110(1)–(2), churches, *id.* § 110(3)–(4), small shops and restaurants, *id.* § 110(5), agricultural organizations, *id.* § 110(6), record stores, *id.* § 110(7), and veterans’ organizations, *id.* § 110(10).

24. See, e.g., Timothy Wu, *Copyright’s Communications Policy*, 103 Mich. L. Rev. 278, 280 (2004) (describing the development of modern copyright law as a tussle between “incumbent and challenger disseminators”).

through the form of intellectual property protection (which would in turn be chosen by the patentee-plaintiff), the same underlying concern applies. Formally building economic status as an element of liability into the patent statute creates a precedent that other interest groups can build upon further when arguing that they too ought to be exempt from liability on the basis of status.

#### IV. ADDRESSING THE PROBLEM OF THE INVENTION-CLAIM GAP EX ANTE

Parchomovsky and Mattioli's proposed solutions are ex post approaches, but, as they recognize, the problems they identify can also be addressed ex ante by focusing on making the patent prosecution process more rigorous.<sup>25</sup>

The patent drafting process provides numerous opportunities for patentees to game the system.<sup>26</sup> Incentives between the patentee and the U.S. Patent and Trademark Office (PTO) are lopsided, as the patentee will usually care more about getting the patent than the PTO will care about denying it. This is not to say that all patentees will care about all patent applications, but it is to say that in art units where examiner productivity is measured using a metric that includes the number of patents granted, many examiners will have little incentive to resist savvy and persistent patent applicants for long.<sup>27</sup> Patentees have every incentive to draft their claims as broadly as possible and are in an informationally superior position to patent examiners about the specifics of their inventions. Thus we should not be surprised when patents containing an invention-claim gap emerge from the patent prosecution process, or when patentees strategically withhold information from examiners in patent prosecution.<sup>28</sup> We can address the invention-claim gap more directly by improving the patent prosecution process and by revising our rules for interpreting patent claims to reduce patent overbreadth.

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25. See Parchomovsky & Mattioli, *supra* note 3, at 219–20 (discussing ex ante proposals).

26. See, e.g., R. Polk Wagner, *Reconsidering Estoppel: Patent Administration and the Failure of Festo*, 151 U. Pa. L. Rev. 159, 188–89 (2002) (giving examples of possibilities for strategic behavior).

27. See Clarisa Long, *The PTO and the Market for Influence in Patent Law*, 157 U. Pa. L. Rev. 1965, 1990 (2009) (describing the PTO's "count system").

28. See Wagner, *supra* note 26, at 214–16 (noting that patent applicants have both the incentives and opportunity to withhold information during the patent application process). This is different from patentees remaining willfully ignorant about other patents or inventions in the field.