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Patent Remedies and Practical Reason

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Response

Patent Remedies and Practical Reason

Thomas F. Cotter*

Carl Sagan once described the earth as “a routine planet near a humdrum star stuck away in an obscure corner of an unexceptional galaxy which is just one of a hundred billion galaxies in the universe.”¹ Not long ago, one may fairly have described the law of patent remedies in similar terms: an obscure corner of the legal universe, of deep and abiding interest to a small number of enthusiasts but largely ignored by everyone else. Today, by contrast, the law of patent remedies finds itself, like some implausibly successful *American Idol* contestant, thrust into unexpected prominence. As Professor John Golden notes in his article *Principles for Patent Remedies*,² patent remedies are now the subject of Supreme Court case law, congressional and agency hearings, op-ed pieces, and even cocktail party banter.³ Much of the interest centers on the ability, real or perceived, of patent owners to threaten the shutdown of products and services the public depends on or to extract billion-dollar judgments for the infringement of relatively minor inventions.⁴ Policy prescriptions from all sides of the debate have come fast and furious,⁵ while the law itself continues to evolve in sometimes unexpected ways. Golden’s article casts much light on the contours of this debate, helpfully pointing out how little we know about certain fundamental aspects of our patent system (including the value of

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1. CONVERSATIONS WITH CARL SAGAN 82 (Tom Head ed., 2006).

2. John M. Golden, *Principles for Patent Remedies*, 88 TEXAS L. REV. 505 (2010).

3. *Id.* at 506–08. I’m joking about the cocktail party banter.

4. *Id.* at 506.

5. *Id.* at 507.

patent remedies);⁶ how desired policy goals are likely to conflict and thus be frustrated;⁷ and how, despite Golden's lack of confidence in ever crafting some ideal system of patent remedies, adherence to his five recommended principles might lead to a more rational, better functioning system.⁸ I will argue below that Golden's analysis (much of which I find persuasive) is grounded in what I and others have referred to elsewhere as "practical reason"⁹—roughly speaking, the practice of making rational decisions in light of uncertainty. To the extent that I find fault in Golden's analysis, it resides in what I interpret to be his occasional despair at having to settle for practical reason over some platonically-ideal alternative, and to my occasional disagreements with his application of practical reason to the problems at hand.

To begin, as Golden correctly points out, most patent scholars adhere to an instrumental view of patent law (patent law as a means to an end), and there is general consensus that the ends include invention, disclosure, and innovation (meaning generally the commercialization of an inventive principle, as distinct from invention itself).¹⁰ There is less consensus as to other possible goals, however, such as "prospecting," enabling follow-on innovation, facilitating transactions, and signaling value;¹¹ and, whether intended or not, patent law surely has an impact along yet other dimensions as well. Scholars have noted, for example, the potential for expansive patent rights to affect the norms of science and the role of research universities in generating knowledge,¹² while others have argued (albeit controversially) that patent doctrine sometimes contributes to ongoing racial and gender disparities.¹³ Whether patent law succeeds, therefore, in purely utilitarian terms, depends upon (1) the criteria one chooses for measuring social welfare, (2) which goals (or consequences) one believes are important, (3) patent law's comparative advantage, if any, in relation to other alternatives for effecting those goals, and (4) patent law's comparative cost in relation to

6. *See id.* at 508, 527–51 (illustrating how the interacting parts of the patent system as well as certain fundamental difficulties make optimization of patent remedies problematic).

7. *Id.* at 528–29.

8. *See id.* at 551–91 (offering three principles for the adaptive development of patent remedies—nonabsolutism, antidiscrimination, and learning—and two principles for implementation—administrability and devolution).

9. *See infra* note 19 and accompanying text.

10. *See* Golden, *supra* note **Error! Bookmark not defined.**, at 509–11.

11. *Id.* at 520–21.

12. *See generally, e.g.,* Arti Kaur Rai, *Regulating Scientific Research: Intellectual Property Rights and the Norms of Science*, 94 NW. U. L. REV. 77 (1999).

13. *See, e.g.,* Shubha Ghosh, *Race-Specific Patents, Commercialization, and Intellectual Property Policy*, 56 BUFF. L. REV. 409, 416 (2008) (contending that the validation of racial categories in patents may arguably validate racist or racialist social practices); Shlomit Yanisky-Ravid, *Rethinking Subject Matter Eligibility: A Social and Gender Perspective*, Presentation at "The Future of Subject Matter Eligibility After In Re Bilski," Bar-Ilan University, Ramat Gan, Israel, Jan. 4, 2010.

those alternatives. Absent robust theoretical and empirical consensus on these points, patent law's efficacy as a means to an end is elusive; worse yet, pursuing any one goal may frustrate another of equal or greater importance.¹⁴

In short, even if everyone agrees at an abstract level that the goal of the patent system is to promote social welfare by stimulating invention and disclosure, devising an optimal patent system (or even an optimal *part* of the system, such as an optimal system of remedies) to carry out this policy remains a daunting task indeed. Golden nevertheless argues that the law of patent remedies would be improved if courts and other policy makers paid heed to his five principles: (1) nonabsolutism (courts should be cautious about adopting rigid, *per se* rules); (2) antidiscrimination (courts should not favor one business model, for example that of manufacturing patentees, over another); (3) learning (where possible, rules should induce the production of useful information); (4) administrability; and (5) devolution (where possible, the law should leave decisions to the decision makers who are closest to the relevant facts).¹⁵ Applying these principles, Golden argues, among other things, that courts should not bar nonmanufacturing patent owners from obtaining injunctive relief or lost profit damages;¹⁶ that damages law should allocate burdens of production on various issues to the parties with superior information;¹⁷ and that a narrow prior-user exemption could help shed light on "patents' usefulness as stimuli to technological progress."¹⁸

As I suggested above, Golden's five principles embody what I have referred to in other work as practical reason, defined as "a method that emphasizes the need for choice, deliberation, and communication in the face of radical uncertainty . . . a way of simultaneously affirming and mediating

14. Golden, *supra* note 2, at 527. An illustration from an aspect of the law of remedies that Golden doesn't touch on in his paper is the recent liberalization of the standard for initiating declaratory judgment actions to challenge patent validity. See *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118, 137 (2007) (stating that a patent licensee is "not required . . . to break or terminate its . . . license . . . before seeking a declaratory judgment . . . that the . . . patent [was] invalid, unenforceable, or not infringed"); *SanDisk Corp. v. STMicroelectronics, Inc.*, 480 F.3d 1372, 1380 & n.2 (Fed. Cir. 2007) (interpreting *MedImmune* as rejecting the Federal Circuit's "reasonable apprehension of suit test"). While this change may have the desirable effect of reducing the social costs attributable to invalid or unenforceable patents, it also could inhibit some socially beneficial patent licensing. These negative effects could, in theory, be compounded by cases such as *Quanta Computer, Inc. v. LG Elecs., Inc.*, 553 U.S. 617 (2008), which (according to some readings) restricts the ability of patentees to pursue as patent infringement the breach of certain licensing conditions. See *Static Control Components, Inc. v. Lexmark Int'l, Inc.*, 615 F. Supp. 2d 575 (E.D. Ky. 2009) (concluding that breach of a restriction on sale can amount to both breach of contract and patent infringement, but that breach of a restriction on postsale use can amount to, at most, a breach of contract). The interdependence of various patent doctrines, in other words, means that changing one or more doctrines piecemeal may have unforeseeable consequences for the system as a whole.

15. Golden, *supra* note 2, at 553–69.

16. See *id.* at 534–35, 557 (stressing that the antidiscrimination principle would, at the least, require legal rules favoring manufacturing patent owners to have substantial justification).

17. *Id.* at 585.

18. *Id.* at 588.

among our conflicting norms.”¹⁹ Indeterminate (even banal) as the concept of practical reason may sometimes seem, I have argued that practical reason is inevitable insofar as “[j]udges and other policymakers necessarily make decisions under conditions of great uncertainty, before all of the evidence that otherwise might have some bearing on the decision can be assembled.”²⁰ To put it concisely, to live in the hope of attaining some absolute truth derived from unshakable first principles is a fool’s game; the rules we devise to resolve our disputes and to structure our lives are necessarily constrained by the limitations of our knowledge, the contingency and contestability of our goals, and the need to revise and rebuild in light of new experience.

Although Golden does not use the term practical reason to characterize his five principles, my understanding of how courts and other policymakers would apply them suggests that the principles are indeed grounded in a form of practical reason. According to Golden, the “primary role” of his principles “is to provide a deliberative framework for reasoned decision making that is attentive to the public interest”,²¹ and he notes that while the “metaprinciple” of utilitarianism “can provide a background value system that can inform ultimate judgments about how to resolve conflicts between the principles . . . it presumptively cannot provide a broadly incontestable, determinate answer.”²² Various other facets of his analysis resonate with the nondogmatic focus of practical reason as a tool for making rational judgments under conditions of uncertainty: his suspicion that absolute rules may be premised on a greater certainty than is warranted by the facts;²³ his attention to the institutional constraints under which courts operate;²⁴ and his emphasis on crafting legal standards that can better harness the parties’ comparative informational advantages.²⁵ Much of this is congenial with my own approach to patent remedies,²⁶ which is rooted in the

19. Thomas F. Cotter, *Pragmatism, Economics, and the Droit Moral*, 76 N.C. L. REV. 1, 30 (1997) [hereinafter Cotter, *Pragmatism*]. In this work and an earlier one, Thomas F. Cotter, *Legal Pragmatism and the Law and Economics Movement*, 84 GEO. L.J. 2071, 2086–91 (1996) [hereinafter Cotter, *Legal Pragmatism*], I discuss the evolution of the concept of practical reason from Aristotle to the American pragmatists and beyond, and its application in the writings of contemporary scholars such as Richard Bernstein, Richard Posner, and Daniel Farber.

20. Cotter, *Legal Pragmatism*, *supra* note 19, at 2090.

21. Golden, *supra* note 2, at 513.

22. *Id.* at 571.

23. *See id.* at 553–55 (explaining the fundamental uncertainty underlying the kinds of awards patent law should provide).

24. *See id.* at 563–64 (using the field of antitrust law to illustrate concerns about courts’ abilities to identify socially problematic behavior and implement corrective steps that improve market performance).

25. *See id.* at 561–63, 564–69 (proposing that a regime of patent remedies should encourage parties to produce information that will improve the regime while also leaving important decisions and responsibilities to parties with better knowledge).

26. *See, e.g.*, ROGER D. BLAIR & THOMAS F. COTTER, *INTELLECTUAL PROPERTY: ECONOMIC AND LEGAL DIMENSIONS OF RIGHTS AND REMEDIES* (2005); Thomas F. Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 J. CORP. L. 1151 (2009).

practical-reason tradition. My (relatively limited) critique of Golden therefore centers on two subsidiary matters: first, the extent to which Golden sometimes seems to betray a Platonic longing for something more determinate than practical reason to guide his analysis; and second, my disagreement with Golden's application of practical reason to a few specific issues within the field of patent remedies.

As for the first point, early in the paper Golden explains, persuasively, why it is impossible to craft a body of remedies law that would optimally carry out the (many and sometimes conflicting) goals of the patent system.²⁷ Golden therefore asks us to assume a "patent czar" who attempts to create a system of remedies while accepting "other aspects of the law as fixed."²⁸ Even on this assumption, however, which Golden characterizes as "draconian,"²⁹ Golden believes that the enterprise is plagued by "fundamental difficulties,"³⁰ and he laments the inevitable "disconnect between a patentee's reward, the social value of the invention, and the fraction of realized social value that the patentee appropriates."³¹ Elsewhere he writes that "whether a patent holder chooses to license patent rights at all will likely depend on a circumstance that might have little to do with the invention's intrinsic value," namely whether the patentee "can produce or otherwise directly employ the patented invention at greater profit than others,"³² and that, "under a pure damages regime, a judicial system that looks to the market to assess patent value might find itself looking in a mirror" insofar as negotiated damages reflect the damages the parties believe a court would award in the event of litigation.³³ Golden's five principles, therefore, may help guide us to a more rational and better functioning system than the one that currently exists, but Golden's description of the disconnect between "intrinsic" value and reasonable royalties, between patent awards and patent policy, leads one to suspect that Golden nevertheless feels a bit melancholy about the whole endeavor. If only we could somehow perceive the forms and not just the shadows cast on the cave wall!

By contrast, I reject the notion that patents *have* any intrinsic value. As I (and others) have long argued, from an economic standpoint, a patented invention is only "worth" whatever profit or cost savings it enables over the next-best alternative.³⁴ The value of a patent is therefore *always* relational and dependent on a myriad of contingent events: what other technologies are available, how well they work and at what cost, what sort of marketable

27. Golden, *supra* note 2, at 527.

28. *Id.*

29. *Id.*

30. *Id.*

31. *Id.* at 544.

32. *Id.* at 541.

33. *Id.* at 508 & n.15.

34. *E.g.*, Cotter, *supra* note 26, at 1183 & n.157.

products or services might benefit from the use of the patented invention, and so on. Indeed, the contingency of the value of an invention is one of the more attractive reasons for having a patent system in the first place. Rather than have the government or private patrons determine in advance what needs to be invented and how much to pay for it, the patent system confers exclusive rights upon inventors and then lets the market decide what the value of that invention is in light of other alternatives. Whether this system succeeds in maximizing social benefits (however one defines them) over social costs (however one defines *them*) is, to be sure, a matter of debate. Be that as it may, however, inventions are not fundamentally different from many other tangible and intangible things insofar as their value resides in what they enable one to do; and what they enable one to do may vary considerably from one time and place to another.

Similarly, I see nothing “draconian” in basing the law of patent remedies (at least that portion of the law that addresses compensatory damages) on the assumption that other features of the patent system be taken as fixed. I have argued before that both rule-of-law and institutional competency considerations suggest that, in fashioning remedies for past conduct, courts should preserve (but not enhance) the incentive scheme embodied in the substantive law, even if that incentive scheme is flawed.³⁵ For all we know, for example, the congressionally mandated patent term may be too long or too short to induce the optimal amount of invention (or disclosure, or whatever); similarly, the judicially created standards relating to nonobviousness may screen out too many or too few inventions from the patent system. Regardless of whether one perceives these or other aspects of the patent system to be flawed, however, the role of the courts in awarding damages (as I see it) is simply to replicate the balance (right or wrong) that the substantive law strikes and to avoid the temptation to manipulate damages awards to correct for perceived deficiencies in substance. (To the extent there are such deficiencies, of course, they should be addressed head-on as matters for substantive reform.) Once we accept this principle, I have argued, a logical framework for awarding retrospective damages falls neatly into place: both to preserve the patent incentive and to discourage infringement, the presumptive standard for awarding damages should be the greater of the patentee’s lost profits or the royalty the parties would have agreed to *ex ante*.³⁶ Thus, in a case in which, but for the infringement, the patentee would have excluded the defendant from using the patented

35. *Id.* at 1159.

36. *Id.* at 1176; *see also* BLAIR & COTTER, *supra* note 26, at 61. In cases in which the cost of detecting and enforcing one’s rights would exceed the value of a purely compensatory award, enhanced damages of some sort may be necessary to preserve incentives and deter infringement. Cotter, *supra* note 26, at 1177. At the same time, courts should be wary of awards that too readily depart from the presumptive standard referred to above, because such awards risk creating perverse incentives either to infringe (if awards generally are too low) or, on the part of patentees, to lie in wait rather than engage in good-faith *ex ante* licensing negotiations (if awards are too high). *Id.*

invention, the correct measure of damages is the patentee's lost profit.³⁷ Alternatively, when the facts suggest that the patentee would have negotiated a license *ex ante* with the infringer, then the correct measure of damages is the royalties the patentee would have earned but for the infringement, based on the hypothetical willing licensor–willing licensee framework.³⁸ To be sure, the implementation of these rules is often quite difficult (as discussed below); and it's surely possible that following these rules risks reducing, rather than enhancing, social welfare if (for example) the system already grants too many patents on minor inventions.³⁹ In crafting damages rules, however, one has to start somewhere, and the assumption that remedies should be ancillary to substance seems more defensible than any other alternative. Draconian, it is not.

With respect to prospective relief, on the other hand, the principle that courts should take the substantive law as a given is, I concede, less helpful because by itself the principle doesn't indicate whether courts should prefer injunctions to prospective damages or vice versa. In this context, then, courts must exercise some judgment concerning how best to promote sound patent policy, and Golden is right to note how uncertain this undertaking can be.⁴⁰ In this context, then, one may be justified in lamenting the need to settle for practical reason over some ideal, but nonexistent, methodology that optimally aligns private and public benefits. As guides for attaining some rational compromise among competing policies, nevertheless, Golden's five principles have much to recommend them. Even so, I take issue with a few of his specific applications of practical reason with regard to both prospective and compensatory remedies.

As for prospective relief, I tend to agree with Golden⁴¹ that a rebuttable presumption in favor of granting permanent injunctive relief to the prevailing patentee might be preferable to the standard the Supreme Court adopted in *eBay Inc. v. MercExchange, L.L.C.*⁴² As other scholars have

37. Cotter, *supra* note 26, at 1176.

38. *Id.* at 1176; BLAIR & COTTER, *supra* note 26, at 229–31.

39. Of course, if the invention is minor so too should the damages be, assuming the damages reflect the value of the patent in relation to the next-best alternative.

40. Golden, *supra* note 2, at 563–64.

41. *Id.* at 578–79.

42. 547 U.S. 388 (2006). In *eBay*, the Supreme Court held that the prevailing patentee was not automatically entitled to a permanent injunction, absent exceptional circumstances, but rather that courts should apply “traditional equitable principles.” *Id.* at 391–93. The four factors “a plaintiff must demonstrate” are

(1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.

Id. at 391. I have argued elsewhere that injunctive relief should still be the norm except when the public-interest factor is substantial (for example, when a patent would block access to essential medicines) or when factors indicative of “patent holdup” (e.g., the patent reads on a small

noted, the “traditional” factors the Court trumpeted in *eBay* bear at best a tenuous relation to “tradition,”⁴³ and thus (if anything) may have made it *harder* to obtain injunctive relief in patent cases than in other areas of the law. Nevertheless, I think Golden is wrong to argue (as I think he is arguing) that manufacturing and nonmanufacturing patentees should stand on the same footing when it comes to awarding injunctive relief.⁴⁴ All other things being equal, a *manufacturing* patentee is more likely to benefit from the defendant’s *exclusion* from the marketplace than is a nonmanufacturing patentee, who (in most cases, most likely) is happy to license its patent to others. With respect to nonmanufacturing patentees, then, the decision whether to award injunctive relief boils down to the prudential question of whether an injunction—which will lead to *ex post* negotiations over terms of use and thus may overcompensate if the appropriate baseline is the *ex ante*, pre-lock-in value of a license—is preferable to having a court imperfectly estimate the value of a prospective license for the technology at issue.⁴⁵ Determining the appropriate tradeoff presents a genuinely difficult issue.⁴⁶ As for manufacturing patentees, by contrast, injunctive relief seems appropriate (again, all other things being equal) precisely *because* the plaintiff’s business model is more likely to depend on exclusion rather than licensing. In this sense, a different emphasis does not amount to *favoring* one business model over another, but rather of *recognizing* that one model depends on injunctive relief to succeed, whereas the other does not necessarily so depend.⁴⁷

component of a larger end product, the infringement was inadvertent, and the *ex post* value of the patent greatly exceeds its *ex ante* value) are present. Cotter, *supra* note 26, at 1174–82 & 181 n.146.

43. See DOUG RENDLEMAN, COMPLEX LITIGATION: INJUNCTIONS, STRUCTURAL REMEDIES, AND CONTEMPT 85–90 (2010) (noting *eBay*’s conflation of the standards for preliminary and permanent injunctions); Douglas Laycock, *How Remedies Became a Field: A History*, 27 REV. LITIG. 161, 168 & n.13 (2007) (criticizing *eBay* for referring to “a ‘familiar’ four-part test that the Court had never before applied”). A literal reading of the opinion would appear to radically modify the traditional standard by requiring the plaintiff to prevail on all four of the Court’s factors (rather than according the burden on some of those factors to the defendant and engaging in an overall balancing). In one recent Federal Circuit decision, however, the court states the applicable rule as if it intends to take the Supreme Court at its word. See *i4i Ltd. P’ship. v. Microsoft Corp.*, 589 F.3d 1246, 1276 (Fed. Cir. 2009) (stating that “not all patentees will be able to show injury, and even those who do must still satisfy the other three factors”).

44. See Golden, *supra* note 2, at 556–60 (urging a nondiscriminatory approach to patent policy that will give new approaches to the development and use of technology the chance to show their worth).

45. There is also the possibility of downward bias, as Golden (citing Elhauge) notes. Golden, *supra* note 2, at 568.

46. For what it’s worth, I am inclined to think that the appropriate baseline *is* the *ex ante*, rather than *ex post*, value of a license, and thus I perceive the risk that injunctive relief will unduly enhance the value of the patent as substantial. At the same time, however, I have reservations about the courts’ institutional competence to craft prospective royalties that accurately capture patent value. For me, the optimal tradeoff would be, as a general rule, to award injunctions except when the probability of patent holdup is substantial. See Cotter, *supra* note 26, at 1182–83.

⁴⁷ See also Daralyn J. Durie & Mark A. Lemley, *A Structured Approach to Calculating Reasonable Royalties*, 14 LEWIS & CLARK L. REV. 627, 636 & n.49 (2010) (arguing that

Golden's application of practical reason also falls short, in my opinion, in his discussion of the work of Mark Lemley and Carl Shapiro. Over the course of several pages, Golden discusses the Lemley & Shapiro argument that the proper "benchmark" for royalties is $\beta\theta v$, where " v " represents the value of the patent in relation to the next-best alternative; and β and θ symbolize, respectively, a measure of patentee bargaining power and the probability that the patent is valid and infringed, where $0 \leq \beta \leq 1$ and $0 \leq \theta \leq 1$.⁴⁸ Golden questions (1) whether v is the correct measure of patent value, insofar as it limits the patentee's award to "the marginal value actually realized by the infringer";⁴⁹ (2) whether v can be measured at all, especially when the product entails multiple components;⁵⁰ and (3) whether β is a proper factor in the analysis.⁵¹ I think that much of Golden's analysis here misses the mark, for several reasons. First, as I have argued before, while the debate over whether $\beta\theta v$ is the proper benchmark (or whether some alternative, for example θv or just v , is preferable) is interesting as a theoretical matter, its practical significance is somewhat less clear. For good reasons, courts do *not* consider β or θ in calculating reasonable royalty damages,⁵² and I do not understand Lemley & Shapiro to be arguing that they should. As I perceive it, the principal purpose of the debate over benchmarks is instead to explore whether the availability of injunctive relief *ex post* is likely to inflate the value of negotiated royalties substantially *beyond* the appropriate benchmark, whatever it is. The practical payoff of the debate, in other words, is not so much to come up with a method for calculating damages, but rather to assist in deciding whether injunctions should be

distinguishing between practicing and nonpracticing entities for purposes of calculating damages does not amount to discrimination against the latter).

48. Golden, *supra* note 2, at 532–37; see also Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEXAS L. REV. 1991, 1992–94 (2007) (discussing the intertwined problems of injunctive threats and royalty stacking, and proposing a method for calculating reasonable royalties); Einer Elhauge, *Do Patent Holdup and Royalty Stacking Lead to Systematically Excessive Royalties?*, 4 J. COMPETITION L. & ECON. 535 (2008) (critiquing Lemley and Shapiro's analysis regarding optimal benchmarks, holdup models, and the effect of royalty stacking); John M. Golden, "Patent Trolls" and Patent Remedies, 85 TEXAS L. REV. 2111 (2007) (criticizing Lemley and Shapiro for their supposed demonstration of systematic overcompensation to certain patent holders and for their advocacy of a rule that would presume injunctive relief for competing patent holders but not for noncompeting patent holders).

49. Golden, *supra* note 2, at 535. Golden seems comfortable with the fact that an award of v will not allow the patentee to recover all of the social value of the invention, *id.* at 533–34, but he argues that it risks undercompensating the licensor patentee who "could have chosen its licensees or licensing terms in a way that shaped the course of commercialization more to its benefit." *Id.* at 535.

50. *Id.* at 535–36.

51. See *id.* at 536–37 (commenting on how β is the "most problematic aspect" of the formula and has received extensive criticism from scholars).

52. See Cotter, *supra* note 26, at 1182–83 & n.154 (noting that the value of β may be too speculative a matter for courts to consider in setting damages based on the willing licensor–willing licensee framework); *id.* at 1183 n.156 (explaining that inclusion of a θ factor in calculating damages *ex post* would introduce a double-discounting problem).

marginally more or less common than they were prior to *eBay*.⁵³ Second, the difficulty of calculating v is well-known among those of us who argue that, as a theoretical matter, v is in general a proper measure of the value of the patented invention.⁵⁴ As a result, courts and potential licensors or licensees often look to other measures of patent value (for example, comparable licenses),⁵⁵ but I would argue that, from an economic standpoint, these other measures in effect are *proxies* for v . The absence of close proxies sometimes makes the calculation imprecise, but as in other areas of the law one does one's best with the available material.⁵⁶ Third, I think that Golden's analysis of why the Lemley and Shapiro analysis threatens to undercompensate licensing patentees by awarding them only v ⁵⁷ rests on something of a misunderstanding of Lemley and Shapiro's point. As I noted above, as a general matter the nonmanufacturing patentee's interest lies not in excluding others from the market, but rather in licensing others to use the patent. In the case of the nonmanufacturing patentee, therefore, the appropriate measure of damages is normally lost royalties, not lost profits derived from lost sales.⁵⁸ In calculating those royalties, the general framework is for courts to try and reconstruct the deal the willing licensor and willing licensee would have struck as of the date the infringement began.⁵⁹ It's not so clear to me, then, that v equals the value the infringer actually derived from the use of the invention; in theory, it should be the *expected* value of the use as of the date

53. *See id.* at 1172–73. To the extent one sides with Lemley and Shapiro, in other words, one might deny injunctive relief in a larger number of cases.

54. *See id.* at 1183–87 (surveying various approaches for calculating the value of patented technologies). To be sure, Lemley and Shapiro also argue that the standards courts sometimes use to calculate reasonable royalties lead to awards that are excessive in light of their proposed benchmark; but much of their analysis here focuses on the inappropriate use of the entire market value of the end product as the royalty baseline. *See* Lemley & Shapiro, *supra* note 48, at 2023–24 (arguing that courts misapply a royalty standard for patented components based on the market value of the entire product if the value of the product as a whole was not dependent on the infringed-upon component). Unless I overlooked it, the issue of determining the appropriate royalty base is one that Golden does not discuss in his paper.

55. *See, e.g.,* Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1325–26 (Fed. Cir. 2009) (“The second *Georgia-Pacific* factor . . . examines whether the licenses relied on by the patentee in proving damages are sufficiently comparable to the hypothetical license at issue in suit.”).

56. *See* Cotter, *supra* note 26, at 1186–87 (contrasting the costs of using certain methods of valuing patented technology with the alternative of using “rougher” proxies of value). Golden does note my argument in favor of deferring to the sort of heuristics the parties themselves would employ. Golden, *supra* note 2, at 584 n.437.

57. Golden, *supra* note 2, at 534–35, 557 n.290.

58. *See supra* text accompanying note 38; *see also* Mark A. Lemley, *Distinguishing Lost Profits from Reasonable Royalties*, 51 WM. & MARY L. REV. 655, 669 (2009) (“Lost profits damages compensate patent owners who would have had partial or complete market exclusivity in the absence of infringement. . . . By contrast, reasonable royalty damages are designed to mimic the result that patentees not interested in or able to take advantage of market exclusivity would have achieved if they had been able to bargain with the infringers beforehand.”); Durie & Lemley, *supra* note 47, at 636 & n.49 (similar).

59. *Lucent*, 580 F.3d at 1324.

infringement began. More importantly, though, in a case in which the patentee would have excluded the infringer (either because the patentee wanted to use the invention itself, *or* because it wanted to grant an exclusive license to someone else, as in Golden's hypothetical⁶⁰) there is nothing I am aware of in the Lemley and Shapiro analysis that would prevent a court from awarding the patentee its provable lost profits *or* lost licensing revenues from having been forced to forgo that exclusive license with someone else.⁶¹ Lemley's other work suggests to me that he would find nothing exceptional in according the patentee but-for compensation for the proven loss of an exclusive licensing opportunity.⁶²

At the end of the day, then, I expect that Golden's five principles could prove useful in guiding courts and other policymakers on questions such as whether to grant injunctive relief or prospective damages; how to calculate royalties when no clear evidence exists as to the value of *v*; and whether to consider more expansive prior-use rights. Perfection may be unattainable, but improvements surely can be made to the functioning of the current system. Though I disagree with some of Golden's own applications of his principles, the thrust of his five principles is consistent with many of the recommendations I have made over the years. As patent remedies continue to emerge from obscurity to, if not center stage, at least a prominent supporting role in the legal system, policymakers would do well to consider Golden's exercise in practical reason.

60. See Golden, *supra* note 2, at 535 (offering an example by which a patent holder chooses who its licensees will be in order to benefit more commercially).

61. Lemley and Shapiro state that their analysis is "limited to situations in which the patent holder's predominant commercial interest in bringing a patent infringement case is to obtain licensing revenues," and that their "policy recommendations . . . pertain only to this type of situation, where the patent holder can claim reasonable royalties but not lost profits." Lemley & Shapiro, *supra* note 48, at 2036. I read this as stating a general tendency among the cases—licensees *generally* do not seek to exclude and therefore *generally* do not qualify to recover lost profits, but rather only reasonable royalties—and not a hard and fast rule.

62. Lemley clearly does contemplate the exclusive licensor's ability to recover lost profits in appropriate cases. See Lemley, *supra* note 58, at 673 ("In my view, a patentee who has granted an exclusive license should stand in the shoes of the exclusive licensee; if the exclusive licensee has lost profits because of infringement, those losses should be compensable in a suit by either or both parties, divided as per the agreement between them."). See also BLAIR & COTTER, *supra* note 26, at 248 (noting, and tentatively approving, the rule that a nonmanufacturing patentee may recover lost profits where the infringement deprived the patentee of profits on the sale of a good that embodied an alternative technology to the technology embodied in the patent).