

# PATENTS, VALIDITY CHALLENGES, AND PRIVATE ORDERING: A NEW DISPENSATION FOR THE EASY- CHALLENGE ERA

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*The Supreme Court promoted private challenges to patent validity in various cases from the 1940s to the 1960s, culminating in 1969. That year in *Lear v. Adkins*, the Court overturned the traditional rule prohibiting patent licensees from challenging the validity of licensed patents. *Lear* and its ilk were premised on the important public benefits of patent validity challenges, as well as the belief that a patent licensee or assignee has uniquely powerful reasons to challenge a patent. Case law culminating in *Lear* upset a century-old set of patent-specific rules that had been adopted from—and reflected the values of—common law private ordering principles. Licensee estoppel, the rule jettisoned by *Lear*, was a logical application of ancient doctrines promoting consistent dealing among contracting parties, most notably estoppel by deed. The long pedigree and evident sense of these rules formed the basis for early resistance to *Lear*, but since 1969, the courts have held true to the pro-patent-challenge rationale of the 1940s-1960s cases.*

*This should end. Today, patent challenges are much easier than in the 1940s or 1960s (or 2000s for that matter). Thanks to the America Invents Act of 2011 (AIA), the Patent Office is now home to an administrative court whose sole purpose and function is to expertly and efficiently consider the validity of any outstanding patent. Primarily through the Patent Office challenge procedure called *Inter Partes Review (IPR)*, patent invalidations have increased over 400 percent since adoption of the AIA. Widely available and effective patent challenges are now an established part of the US patent landscape.*

*While the AIA undermines the foundation of *Lear* and other cases premised on scarce patent challenges, fresh academic research recognizes the crucial role of patents as a basis of efficiency-enhancing private ordering. Patents in some cases support firm specialization, but only insofar as firms can reliably transfer to others technology or technology-heavy product components. Regulation and restriction of patent licensing blunts the effectiveness of patents as the centerpiece for technology-intensive transactions. This, in turn, wastes the potential for patents to promote the viability of smaller firms, and thus to contribute to a variegated industry structure free of domination by a few large firms. *Lear* makes the patent challenge right inalienable: this right vests in a licensee and cannot be waived or traded away by contract. The newer literature on the importance of patents in the context of private ordering counsels against such a rule, and so pro-*

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*vides an additional reason to end the reign of Lear. I conclude this Article with a set of normative suggestions about how to readjust patent law in an era of easy patent challenges and renewed interest in patent-based private ordering.*

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## I. INTRODUCTION

Our legal system never comes right out and says it, but since roughly the 1940s, deep in its bowels, it harbors a dislike for patent licensing. Antitrust law looks at patent licenses and often sees an effort to extend patents beyond their legitimate range. In other cases, the Supreme Court has taken aim at a number of contract clauses and doctrines that limit a patent owner's business partners from attacking the validity of the owner's patent. In both cases, patent licensing is depicted unsympathetically. Patentee-licensors seek to extend the reach of their monopolies. They fold patent rights into a web of restrictions that bind the hands of hapless licensees.

Whatever its merits historically, today, this disfavor is utterly wrong. Under present conditions, and with the benefit of a steep wave of empirical evidence, we can say with no hesitation that it is time to promote licensing; to treat it with deference in most cases. To *favor* it, even.

Licensing—and patent-related transactions generally—have a newfound respect among people who study the economics of patents. New learning emphasizes the transactional role of patents: the way patents support interfirm exchanges in technology-heavy goods and services. These transactions in turn make it possible for some companies to remain independent, often by specializing in a particular technological component or capability. The main idea is that patents support contracting; contracting at times replaces vertical integration into large companies; and thus, patents indirectly contribute to a more diverse industry structure. This both broadens the traditional take on patents as incentives and undermines a long-running narrative in which patents give aid and comfort mostly to big companies, rather than smaller specialists.

Keeping in mind this new, fresh story about patents, the first welcoming gesture toward licensing ought to come in the form of eliminating a set of common law doctrines that undermine trust and limit efficiency in patent-related contracts. I am speaking of the rules prohibiting any limitation of a licensee's right to challenge the validity of a licensed patent. These rules, which emerged in the anti-patent era that began in the 1940s, contravened eighteenth and nineteenth century common law rules that permitted, and in some cases dictated, waiver of the right to challenge patent validity. The post-1940 pro-patent challenge rules have always had critics—chief among them Professor Rochelle Dreyfuss. And the critics have always had a point: that there are all sorts of good and useful reasons a licensor might require a licensee not to challenge patent validity. But whatever the force of these arguments in the past, the new economic learning I mentioned adds quite significant horsepower to the critique of the pro-patent challenge rules.

Even more importantly, recent legislation has revolutionized the availability of patent challenges. Specialized patent invalidity courts are now open to anyone who cares to challenge a patent anytime during the patent's term. Thus endeth the rationale for the pro-patent challenge rules, which were premised on

the notion that the patent owner's contracting partners were among the few interested parties that might have the incentive and opportunity to challenge patent validity. In the current era, any competitor that might benefit from invalidating a patent can take a shot at a much lower cost than in the previous era. In those years, invalidation could only arise when asserted as a defense in an expensive federal court lawsuit. Now, the most common form of patent challenge (an Inter Partes Review or IPR) can be pursued by anyone at any time, and for a fraction of the cost of the typical district court patent infringement case. In addition, the new era allows the challenger and not the patent owner to control the timing of a patent challenge. For all these reasons, patent challenges are much more widespread and potent than they were. So, the rationale for pro-challenge common law doctrines has simply dissolved.

This alone would justify ending the pro-challenge doctrines. But when you add in our updated appreciation for the economic importance of patent-based transactions, the case becomes overwhelming.

In the next Part (i.e., Part II), I explain the development of patent economics to embrace topics such as specialization and industry structure. This "S/IS" approach evolved out of the older tradition in which aggregate social welfare was the primary focus of economic theorizing over patents. The traditional "Tradeoff" model looked to balance the incentive effects of patents with their tendency to promote monopoly pricing. In keeping with mainstream microeconomics in that era, Tradeoff models operated on a highly aggregated level. The key variables were the total number of inventions produced in a given economy and total social welfare. As patents are strengthened, the societal supply of new inventions will expand; but as patent power proliferates, the resulting supra-marginal pricing reduces overall consumer welfare.

In contrast to theorizing at the economy-wide level, the newer specialization/industry structure (S/IS) theory pays attention not just to the aggregate supply of inventions, but also to the *locus* of invention: where in the economy are, and what people and firms generate, these new inventions? The invention supply curve of traditional theory is, in effect, disaggregated into a variegated collection of industries, firms, and markets. Scholars dig into the details and the many ways production is organized in technology-intensive fields. S/IS theory has its roots in the economic study of transactions. This branch of economics studies the pluses and minuses of different organizational forms, (e.g., large integrated companies versus small specialized ones). Contracting among firms is of course central to transaction-oriented economics. One especially relevant set of studies concentrates on the efficacy of contracts built around property rights. This economic research provides a natural set of tools and concepts with which to understand patent licensing, as seen in Part II below.

Part III is devoted to the new era of wide open patent challenges. The alphabet soup of administrative patent proceedings served up by the America Invents Act includes most importantly Inter Partes Reviews (IPRs). I describe why Congress created IPRs, and why they are so wildly popular (hint: they are

cheap, fast, and reliable). As IPRs have completely remade the landscape of patent challenges, they have also eroded the foundations of pro-patent challenge doctrines. With challenges no longer being scarce, there is no reason to bend over backward to preserve challenges by contracting parties.

In Section II.B, I go a bit further. I first dismiss the thought that contracting parties are especially valuable patent challengers—that they have a better chance to invalidate a patent than other potential challengers. Having eliminated this traditional pro-challenge rationale, I proceed to turn it on its head. Because of the unique *harm* posed by business partner patent challenges, I argue that they should be disfavored. The marginal benefit of a partner challenge on top of all other potential challenges is not worth the economic losses in trust and potential contracting efficiency. The argument depends in part on the findings of studies detailing the exchange of unpatented trade secret and know-how information under the protective umbrella of patent licensing. Most important is the hostage-convoy theory of technology exchange associated primarily with the work of economist Ashish Arora. Arora showed that the serious threat value of patent enforcement deters a licensee from freely misappropriating the trade secret and know-how information associated with the licensed patent.

#### A. *Pro-Patent-Challenge Doctrines: Origins and Rationale*

For a long time, patent challenges by private parties have been considered an unalloyed good. It is accepted that the Patent Office issues many bad patents—patents that, in a perfect (or just slightly better) world, would never have issued. To prevent these invalid patents from causing harm, the patent system counts on help from private parties who are faced with a charge of infringement. A patent owner that moves to enforce a patent through an infringement suit will almost always face pushback in the form of the defendant’s challenge to the validity of the asserted patent. A defendant that succeeds in invalidating a patent gets rid of the lawsuit that threatened them. But beyond this personal benefit, they confer a public benefit as well: a patent invalidated by a single party becomes a non-threat to all others.

Also, for a long time, private party challenges were by far the most common path to invalidity. There were various forms of administrative challenge—that is, procedures to re-open the Patent Office’s examination process, or to challenge the patent in a special proceeding in the Patent Office; but these challenges were far less effective than invalidity defenses in litigation. This was partly a result of tradition and inertia; patent systems in Europe, Japan, and many other countries have long been much more receptive to patent challenges brought in national or regional patent offices. These administrative challenges can typically be filed without the patent challenger first being sued for infringement. But they share a key characteristic with invalidity defenses in patent litigation: they harness the field-specific knowledge of an industry participant (the challenger) and use it to take aim at the validity of an asserted patent.

Despite their popularity elsewhere, robust administrative challenges came to the US in a serious way only in 2011.

Solicitude for private party patent challenges has traditionally been so strong that it outweighed—more or less axiomatically—the value of settled expectations in patent-related contracting. The Supreme Court in 1969 did away with the old rule estopping a licensee from challenging the validity of a licensed patent. Even where a licensee explicitly agrees to forego patent challenges, some argue that such a clause is impermissible because of the policy in favor of patent challenges. Another patent law rule supports the pro-challenge policy when parties try to structure royalty payments so that they are paid over a long time horizon extending beyond the expiration date of a patent. A strict rule outlaws contract terms for payment of post-expiration royalties. Because expiration here means the running of the full patent term *or* the invalidation of the patent, this rule indirectly encourages licensees to challenge patent validity. An invalid patent puts an end to the requirement to pay patent royalties. Civil procedure, too, encourages patent challenges, in the form of a collateral estoppel rule saying that no prior validity finding estops future patent challengers from taking aim at a patent, while a finding of *invalidity* in any forum is binding on the patentee in all forums.<sup>1</sup>

Pro-challenge rules such as these might have made sense in earlier eras but the vast expansion of administrative patent challenges under the America Invents Act of 2011 (AIA) crumbled the policy foundation for the pro-challenge bias. Older case law, from before the AIA, is therefore open to doubt on this point. Administrative patent challenges are easy, popular, and effective. In this new era, the pro-challenge rationale of some patent doctrines may well be out of date. At a minimum, now is a good time to look into the downside of an unlimited pro-challenge bias—the costs that come with encouraging patent challenges even by parties in contractual privity with the patent owner.

To begin the task of tearing down pro-challenge rules, we first need to understand the background out of which those rules emerged.

### *1. Early No Challenge Cases: Birth of the Estoppel Principle*

There were three phases, distinct in outline, that led to *Lear*.<sup>2</sup> First was the bright line rule period—analagized to estoppel by deed in real property and beginning in the 1840s. Licensee and assignor estoppel barred validity challenges by partners in business deals involving a license or grant of patent rights. The original rationale was to protect “sound morals” against a “gross violation of contract”: the hypocrisy of first recognizing, then later denying, the validity of a licensed patent. Second came a more balanced period, between roughly 1880 and the 1940s, when a more flexible version of the rule was applied. It included exceptions for licensees and assignees arguing non-infringement, in ways that

<sup>1</sup> See *Blonder-Tongue Laboratories, Inc. v. Univ. Ill. Found.*, 402 U.S. 313, 349–50 (1971).

<sup>2</sup> *Lear, Inc. v. Adkins*, 395 U.S. 653 (1969).

sometimes drew close to issues of validity. Later in this period, with the Supreme Court bent on rooting out anticompetitive behavior, lower courts began to apply the rule almost reluctantly, sensing that, despite its long provenance in US courts, it was out of step with the Supreme Court's aggressive expansion of antitrust principles. The pro-patent challenge policy was already firmly in place in other quarters of patent law when the final hammer fell with *Lear* in 1969.

*a. Origins: Estoppel by Deed and Business Morality*

Beginning around the mid-nineteenth century, licensees and assignees were typically estopped from attacking patent validity. The origin of the doctrine lies with real property, where the rule of estoppel by deed had long been established.<sup>3</sup> The Supreme Court, in its 2021 decision partially upholding the doctrine of assignor estoppel, traced out some of the history:

Assignor estoppel got its start in late 18th-century England and crossed the Atlantic about a hundred years later. In the first recorded case, Lord Kenyon found that a patent assignor “was by his own oath and deed estopped” in an infringement suit from “attempt[ing] to deny his having had any title to convey.” *Oldham v. Langmead* (1789), as described in J. Davies, *Collection of the Most Important Cases Respecting Patents of Invention and the Rights of Patentees* 442 (1816); see *Hayne v. Maltby*, 3 T. R. 439, 441, 100 Eng. Rep. 665, 666 (K. B. 1789) (recognizing the *Oldham* holding). That rule took inspiration from an earlier doctrine—estoppel by deed—applied in real property law to prevent a conveyor of land from later asserting that he had lacked good title at the time of sale. See 2 E. Coke, *The First Part of the Institutes of Laws of England* 352a (Hargrave & Butler eds., 19th ed. 1832) (1628). Lord Kenyon's new patent formulation of the doctrine grew in favor throughout the 1800s as an aspect of fair dealing: When “the Defendant sold and assigned th[e] patent to the Plaintiffs as a valid one,” it “does not lie in his mouth to say that the patent is not good.” *Chambers v. Crichley*, 33 Beav. 374, 376, 55 Eng. Rep. 412 (1864); see *Walton v. Lavater*, 8 C. B. N. S. 162, 187, 141 Eng. Rep. 1127, 1137 (C. P. 1860) (“The defendant, who has received a large sum for the sale of this patent, ought not to be allowed to raise any question as to its validity”). The earliest American decision applying the doctrine dates from 1880. See *Faulks v. Kamp*, 3 F. 898 (CC SDNY). Within a decade or two, the doctrine was “so well established and generally accepted that citation of authority is useless.” *Griffith v. Shaw*, 89 F. 313, 315 (CC SD Iowa 1893); see 2 W. Robinson, *Law of Patents for Useful Inventions* § 787 (1890) (collecting cases).<sup>4</sup>

<sup>3</sup> See, e.g., *Van Rensselaer v. Kearney*, 52 U.S. 297, 322–23 (1850):

[I]f the deed bears on its face evidence that the grantors intended to convey, and the grantee expected to become invested with, an estate of a particular description or quality, and that the bargain had proceeded upon that footing between the parties, then, although it may not contain any covenants of title in the technical sense of the term, still the legal operation and effect of the instrument will be as binding upon the grantor and those claiming under him, in respect to the estate thus described, as if a formal covenant to that effect had been inserted; at least, so far as to estop them from ever afterwards denying that he was seized of the particular estate at the time of the conveyance.

<sup>4</sup> *Minerva Surgical, Inc. v. Hologic, Inc.*, 141 S. Ct. 2298, 2305 (2021).

Though there is evidence of cases prior to *Faulks v. Kamp* in 1880,<sup>5</sup> the general point is accurate enough: patent-related estoppel rules were well-established by the end of the nineteenth century,<sup>6</sup> with deep roots in the rich soil of “fair dealing,” as described in the 2021 Supreme Court opinion in *Minerva Surgical, Inc. v. Hologic, Inc.*<sup>7</sup> In fact, the formulation of the rule in the British case *Chambers v. Crichley*,<sup>8</sup> quoted in *Minerva*, wherein it was said that it “does not lie in his [the assignee’s] mouth to say that the patent is not good,”<sup>9</sup> became almost a catchphrase summarizing the doctrine. Consider not just the

<sup>5</sup> See, e.g., *Kinsman v. Parkhurst*, 59 U.S. 289, 292–93 (1855) (assignment of one third interest in patent; held, assignee/business partner liable for an equitable accounting despite assignee defense of patent invalidity):

[U]nder the [assignment in 1846], the invalidity of the patent would not afford a bar to the complainant’s right to an account. Having actually received profits from sales of the patented machine, which profits the defendants do not show have been or are in any way liable to be affected by the invalidity of the patent, its validity is immaterial. Moreover, we think the defendants are estopped from alleging that invalidity. They have made and sold these machines under the complainant’s title, and for his account; and they can no more be allowed to deny that title and retain the profits to their own use, than an agent, who has collected a debt for his principal, can insist on keeping the money, upon an allegation that the debt was not justly due.

<sup>6</sup> The earliest cases largely, though not uniformly, adopted licensee/assignee estoppel. See STEPHEN D. LAW, DIGEST OF AMERICAN CASES RELATING TO PATENTS FOR INVENTIONS AND COPYRIGHTS FROM 1789 TO 1862 281 (1868) (quoting *Mitchell v. Barclay*, 17 F. Cas. 494, 494 (C.C.S.D.N.Y. 1860) (“The mere taking a license does not estop the licensee denying the validity of a patent.”)). More along the main line is *Vance v. Campbell*, 28 F. Cas. 956, 957–58 (C.C.S.D. Ohio 1859) (“[I]f you find that the defendants have used this improvement, or something substantially like it, they are estopped from denying the utility of the plaintiff’s invention; for, in that case, the use of the thing patented would imply that the party thought it of some utility.”); see also *Brooks v. Stolley*, 4 F. Cas. 302, 303–04 (C.C.D. Ohio 1845):

Except on the ground that the patent is invalid, under which the complainants claim, there is no pretence of right by the defendant to use the machine, unless he derives it from the contract. In this view, the contract must be considered as a license to the defendant, and its terms must be construed. As the validity of Woodworth’s patent, and the assignment to complainants, as far as regards the right to an injunction, has been heretofore considered and decided, on this motion that question will not be examined. *It may not be improper, however, to suggest, whether the defendant, having acknowledged the validity of the complainants’ right, under his hand and seal, is not stopped now from denying it.* If in this admission he was misled, and on that ground contends that he is not bound by it, he must repudiate the contract, and claim nothing under it. He cannot claim that part of the contract which may be favorable to his interests, and reject that which operates against him. The defendant admits that he has failed to make payment, which is the important fact of the agreement, as it constituted the only motive which the complainants could have had to enter into the agreement.

(emphasis added) (disapproved of for unrelated reasons in *Hartell v. Tilghman*, 99 U.S. 547 (1878), criticizing the *Brooks* court for granting federal jurisdiction in what was merely a contracts case). Cf. *Eureka Co. v. Bailey Co.*, 78 U.S. 488, 492 (1870) (“Some attempt is made [by licensee Eureka] to assail the novelty of [the licensed] invention, but as no notice was given of any such attempt [in the lower court proceeding], or of the witnesses or other evidence by which that charge was to be supported, it cannot be considered in this case.”).

<sup>7</sup> *Minerva Surgical, Inc.*, 141 S. Ct. at 2302.

<sup>8</sup> *Chambers v. Crichley*, (1864) 55 Eng. Rep. 412.

<sup>9</sup> *Minerva Surgical, Inc.*, 141 S. Ct. at 2305 (quoting *Crichley*, 55 Eng. Rep. at 412).



1880 *Faulks* case, but also *Oscar Barnett Foundry Co. v. Crowe*, a New Jersey equity case from 1912, that features an opinion bristling with disdain for the actions of hypocritical inventor/assignee Crowe:

I think when Mr. Crowe *sets himself up as an inventor*, and for a valuable consideration *induces another party to take a license under his so-called invention, or to buy his patents, it does not lie in his mouth to say that the patent is bad*, or that the application is for a thing for which letters patent are not allowable; or, in other words, *having represented that he has a patentable invention* on which he based the contract which furnished him with money, *it does not lie in his mouth to say that the so-called invention is not a patentable thing . . .* Now that, I think, is the long and short of this case . . . [T]he action of Mr. Crowe in building [an infringing device under the pretext that his already-assigned patent was invalid] was *a gross violation of his contract*.<sup>10</sup>

A case from 1894 captures judicial attitudes informing the estoppel rule:

Joseph T. Clarkson, one of the respondents below, was the original patentee, and the title of complainants is derived under assignments from him for a pecuniary consideration, valuable in law, though said to be small. Consequently, an estoppel operates against him. The precise nature of this estoppel does not seem to have been always clearly apprehended. It is, in effect, that, when one has parted with a thing for a valuable consideration, set up his own fraud, falsehood, error, or mistake to impair the value of what he has thus parted with. As applied to the specifications of a patent, the vendor patentee is as much barred from setting up that his allegations therein were merely erroneous as that they were willfully false. *This is as much in harmony with sound morals as with the fundamental rules of equity law*.<sup>11</sup>

As we will see, the modern pro-challenge tilt that culminated in *Lear* switches the valence of moral judgment: the licensee becomes a “private attorney general,” promoting the common welfare. The assignor or licensor can claim no such virtue. The only salient effect of the license or assignment is to mulct the public, by charging business partners royalties rooted in an illicit patent grant.<sup>12</sup>

#### b. *Roots in Classical Contract Law*

But that role reversal—licensee/assignee good, patent owner bad—was far in the future in the late nineteenth century. A representative case from 1896 explains why. That case, *National Conduit*, distinguishes sharply between “the

<sup>10</sup> *Oscar Barnett Foundry Co. v. Crowe*, 86 A. 915, 916 (N.J. 1912) (emphasis added).

<sup>11</sup> *Babcock v. Clarkson*, 63 F. 607, 607 (1st Cir. 1894) (emphasis added).

<sup>12</sup> *Lear, Inc. v. Adkins*, 395 U.S. 653, 670–71 (1969) (emphasis added):

Surely the equities of the licensor do not weigh very heavily when they are balanced against the important public interest in permitting full and free competition in the use of *ideas which are in reality a part of the public domain*. . . . If [licensees] are muzzled, the public may continually be required to pay tribute to would-be monopolists without need or justification. We think it plain that the technical requirements of contract doctrine must give way before *the demands of the public interest* in the typical situation involving the negotiation of a license after a patent has issued.

status of the patent as to the public” and the assignor’s firm contractual obligation not to “interfere with the vendee’s rights in the invention” during the patent term.<sup>13</sup> The firm wedge between the general public and the licensee is driven by the fact that the latter has entered into a binding obligation with the patent owner. The ultimate rationale is classic Gilded Age contract doctrine. To later attack the validity of the assigned patent would destroy the necessary mutuality of consideration. The patent owner has received a valuable consideration from the assignee/licensee (lump sum payment and/or royalties). To support the exchange, the owner offers the patent as a valuable item in return: “he [the assignor here] has received and retained a valuable thing in consideration of the statements contained in the application for, or specification of, the patent.”<sup>14</sup>

The way the court in *National Conduit* sees the situation, a validity challenge is akin to recanting or disclaiming statements in the text of the patent. It is this very text that forms the basis of the bargain between the two parties. In true formalist fashion, the court identifies the document embodying the patent rights as the object of the contractual exchange. To offer something up for good value, then in effect destroy that value (while keeping the monetary consideration received) makes a mockery of consideration.<sup>15</sup> It cuts at the tight linkage formed in a binding obligation, a linkage catalyzed by the reciprocal transfer of value. To first offer a patent as embodying exchange value, and then to attack the basis for that value, is too slippery a move to be tolerated inside the temple of commercial exchange.

The *National Conduit* court, in characteristic Gilded Age form, rooted the case in the principles of bilateral contractual exchange.<sup>16</sup> The reason the estoppel arises is that the assignee’s promise to refrain from challenging the patent serves as the consideration at the heart of the assignment. It is the commitment that makes the transfer of the patent binding, that undergirds the entire contract.

<sup>13</sup> *Nat’l Conduit Mfg. Co. v. Conn. Pipe Mfg. Co.*, 73 F. 491, 493 (C.C.D. Conn. 1896).

<sup>14</sup> *Id.* (citing *Babcock*, 63 F. at 607).

<sup>15</sup> Doctrinally, assignor and licensee estoppel smack of what contracts cases call “failure of consideration.” The basic rule is that if a contracting party acts in a way that reduces or destroys the value of what that party promised in a contract, the other party may terminate or rescind the contract. For an illustrative discussion, see *Taliaferro v. Davis*, 31 Cal. Rptr. 164, 172 (Cal. Dist. Ct. App. 1963) (emphasis added):

[W]here the consideration [for a contract] *fails in whole or in part through the fault of a party whose duty it is to render it*, the other party may invoke such failure as a basis for rescinding or terminating the contract, provided the failure or refusal to perform constitutes a breach in such an essential particular as to justify rescission or termination. (12 Cal.Jur.2d, Contracts, § 204, p. 422; Crofoot, *supra*, 163 Cal.App.2d pp. 332-333, 329 P.2d pp. 308-309.) The right of the injured to claim release from obligations and thus to elect to terminate the contract depends, as stated in Crofoot, “upon the gravity of the breach.” (P. 332, 329 P.2d p. 308.)

<sup>16</sup> See generally LAWRENCE M. FRIEDMAN, *CONTRACT LAW IN AMERICA: A SOCIAL AND ECONOMIC CASE STUDY* (1965); P.S. ATIYAH, *THE RISE AND FALL OF FREEDOM OF CONTRACT* (1979). On the relationship of the bargain theory to general Gilded Age legal thought, see HERBERT HOVENKAMP, *THE OPENING OF AMERICAN LAW: NEOCLASSICAL LEGAL THOUGHT, 1870–1970* 115 (2014) (“[T]he classical tradition attempted to organize the law around a relatively small number of highly abstract categories.”).

Consideration means each party to a contract contributes something of value. Without value flowing from each party to the other, and to each from the other, there is no contract. And—this is the crucial point—it is the inventor/patent owner’s statements in the patent that imbue the patent with value. The patent’s text, detailing the genesis of the claimed invention and the ways it differs from the prior art, is not just descriptive. It has legal significance. In a patent, the description of the invention is the core source of legal rights.<sup>17</sup> Because of the inventor’s unique power to either confirm or put in doubt the basis of the patent’s value, this puts an inventor-assignor in a different legal position entirely as compared to the general public:

[T]he foundation of the estoppel against a vendor patentee is the fact that he has received and retained a valuable thing in consideration of the statements contained in the application for, or specification of, the patent. . . . It is immaterial that the parties knew [of a prior art water pipe made of the same material as the electrical conduit claimed in the assigned patent] . . . provided they understood that the vendor claimed that its use for electrical conduits covered by said application was new, and the consideration was paid upon such understanding. Such a sale is, in effect, upon the consideration of an agreement by the vendor that, *whatever may be the status of the patent as to the public, he (the vendor) will not thereafter interfere with the vendee’s rights in the invention covered thereby, during the life of said patent.* Irrespective, then, of the representations of Phipps [regarding possible problems with the patent], he is now estopped to deny the statement in said original application, that his “invention consists in a conduit for electric wires or cables, composed of a sheet-metal tube or shell, and a lining of cement therefor.”<sup>18</sup>

In conclusion, whatever legal dialect was employed, the courts spoke in the language of private law obligations. Third parties to the contract rarely entered the conversation. When they did, as in *National Conduit*, the courts showed little interest in that message. The contracting parties stayed firmly rooted on center stage, with third party impacts and the public interest generally cast in the role of extras, if not simply spectators.

<sup>17</sup> The written description, as it is called (often informally called the “specification”), must support all the claims that issue from a given patent application. To disavow the statements, data, and arguments in the specification is to undercut the very foundation of the legal rights embodied in a patent. The inventor is uniquely qualified, then, to erase or obfuscate the very words that constitute the scope and value of the patent rights at issue.

<sup>18</sup> *Nat’l Conduit Mfg. Co.*, 73 F. at 493 (emphasis added). This was not the only case that pinned the estoppel rule to the requirement for contractual consideration. *See, e.g.*, *Parker v. McKee*, 24 F. 808, 808 (C.C.S.D.N.Y. 1885):

There is a strong reason for maintaining the validity of the patent in this case . . . and that is that one of the defendants, who are a firm doing the business that infringes, was once an owner in the patent, and his title has passed to the plaintiff as a title to a valid patent. It is admitted that such a conveyance upon a valuable consideration would estop him from denying the validity of the patent, but it is urged that this conveyance was without consideration, and that therefore it does not work any estoppel. It does not appear, however, so far as has been noticed, that the conveyance of his interest was entirely without consideration, and the presumption would seem to be that it was upon consideration, and that the estoppel should follow.

*c. The Language and Imagery of Estoppel*

An aside: the repeated phrase, “it does not lie in his mouth to say,” is both a colorful trope and an instructive choice of words. In the true spirit of estoppel, it renders moot or disqualifies the particular statement under discussion. When a patent assignor or licensee in these older cases attempted to go back on his or her word, the court stepped in to nullify the later inconsistent statement. But on a more penetrating level, the chosen phrase, “does not lie in his mouth,” connotes an aggressive, almost invasive, legal intervention. It is as if the court wants to pull the later inconsistent statement from the very mouth of the brazen speaker who would dare to go back on his or her own solemn word.<sup>19</sup>

If snatching hypocrisy from a speaker’s lips seems a harsh judgment, consider the findings of developmental psychologists. Several controlled studies establish that children begin to identify and impugn hypocrisy around age seven.<sup>20</sup> Naturally, there is a gap between the simple setup of a psychology experiment and the more complex environment of patent transactions between business firms. Yet the consistent emergence of the anti-hypocrisy norm in children does seem to line up with the strong condemnation of perceived hypocrisy on the part of licensees and assignees who pay good value for patent rights at time one, then turn about-face to attack patent validity at time two.

*2. Middle Period: Narrowing and Questioning Estoppel Rules*

Even as cases such as *National Conduit* maintained the potency of estoppel doctrines for contractual partners of a patent owner, other case law stirred some subtle limiting principles into the doctrinal mix. The earliest limit was the recognition, in the context of assignor estoppel, that the assignor of a patent is

<sup>19</sup> Given the ubiquity of knowledge about the Christian Bible in the culture of the time, it may not be a coincidence that a small variant on the phrase under discussion (one which supports the hint of double entendre in the equity court’s statement), is found in the Bible: *Revelations* 14:5 (New Revised Standard Version) <https://www.biblegateway.com/passage/?search=Revelation%2014%3A1-5&version=NRSV> [https://perma.cc/M4W8-DN52] (“[I]n their mouth no lie was found; they are blameless.”). On biblical knowledge in nineteenth century America, see, e.g., ALBERT EARL ELMORE, *LINCOLN’S GETTYSBURG ADDRESS: ECHOES OF THE BIBLE AND BOOK OF COMMON PRAYER* 1, 2, 8–9 (2009); see also GARY WILLS, *LINCOLN AT GETTYSBURG: THE WORDS THAT REMADE AMERICA* 23 (1992) (possessions of fallen soldiers at Gettysburg often included their personal bibles).

<sup>20</sup> See Hannah Hok et al., *When Children Treat Condemnation as a Signal: The Costs and Benefits of Condemnation*, 91 *CHILD DEV.* 1439, 1445–46 (2020) (controlled studies of hundreds of children aged 4-9) (“Older children [ages 7 and up] were . . . more likely to desire harsher punishment for the praiser of sharing when both characters [in the story told as part of the study; both the praiser and non-praiser (i.e., hypocrite and non-hypocrite)] had failed to share. This pattern of punishment suggests that older children are paying attention specifically to hypocrisy and false signaling: they are more likely to punish the character that they predict will do the right moral action . . . once the character fails to do so.”); see also *id.* at 1451 (“The consistency in the developmental emergence of . . . [these moral judgments] suggests that there may be some underlying social cognitive skills that develop or improve around age 7 which allow children to . . . condemn moral hypocrisy.”).

free to make arguments about *infringement* if the assignee asserted the assigned patent against the assignor. Validity arguments were still off limits under property, contract, and fairness principles. But, perhaps unknowingly, a line of cases opened the door to major retrenchment from the strong estoppel rules. The reason is that the border between validity and infringement can be a porous one. Most importantly, one way to establish non-infringement is to argue that one is merely “practicing the prior art.” This species of non-infringement allows the party asserting it to bring into the conversation discussions of prior art. The ability to argue non-infringement opens up a back door to the topic of patent validity. Seeking prior art to show non-infringement (i.e., looking for prior art so as to argue “I was only employing technology that was in the art prior to the patented invention”) puts that prior art into play in the case. This obviously undermines the assignor’s or licensee’s duty, under the estoppel rule, to avoid the topic of invalidity. A case from 1900 covers just this ground:

*It seems to be well settled that the assignor of a patent is estopped from saying his patent is void for want of novelty or utility, or because anticipated by prior inventions. But this estoppel, for manifest reasons, does not prevent him from denying infringement.* To determine such an issue, it is admissible to show the state of the art involved, that the court may see what the thing was which was assigned, and thus *determine the primary or secondary character of the patent assigned, and the extent to which the doctrine of equivalents may be invoked against an infringer.* The court will not assume against an assignor, and in favor of his assignee, anything more than that the invention presented a sufficient degree of utility and novelty to justify the issuance of the patent assigned, and *will apply to the patent the same rule of construction, with this limitation, which would be applicable between the patentee and a stranger. . . .* This was the rule applied by the court below, and is the principal ground of objection to the decree finding that the assigned patents, when limited by the previous state of the art, had not been infringed.<sup>21</sup>

Other cases concur.<sup>22</sup>

<sup>21</sup> Noonan v. Chester Park Athletic Club Co., 99 F. 90, 91 (6th Cir. 1900) (emphasis added); *see also* U.S. Frumentum Co. v. Lauhoff, 216 F. 610, 613 (6th Cir. 1914):

While a patentee-assignor may, when made a defendant, litigate the scope of his patent and have it judicially construed according to its true extent (Noonan v. Chester Co. [C.C.A. 6] 99 Fed. 91, 39 C.C.A. 426; Smith v. Ridgley [C.C.A. 6] 103 Fed. 875, 43 C.C.A. 365), the courts surely will not, unnecessarily, construe it so narrowly as to make it worthless. *See* Alvin Co. v. Scharling, by Judge Gray [100 Fed. 87, 90–91 (C.C.D.N.J. 1900) (evidence sought to be introduced by assignor would mean the invention “lacked novelty, and therefore [that evidence] cannot be received or considered in this suit”)]. They will be inclined, so far as the record permits, to make its exclusive right a real and valuable thing. Ordinary equitable considerations must require this point of view, and the resulting liberality of construction.

<sup>22</sup> *See, e.g.,* Martin & Hill Cash-Carrier Co. v. Martin, 67 F. 786, 787 (1st Cir. 1895) (citations omitted):

The first question which arises is how far the defendant is estopped in this action. In a suit for infringement, brought against the assignor of a patent by his assignee, the assignor is estopped from denying the validity of his patent. He cannot say that the patent has been anticipated by prior structures, or that it is void for want of novelty or utility. . . .

. . . .

It is tempting to chalk these cases up to Gilded Age formalism. While this has much to recommend it, it would be a mistake to say the nineteenth century case law is just a “period piece” and nothing more. The business context in particular is important too. Many cases during this period grew out of the common practice of using patent assignments and licenses as the basis of territorial franchising or exclusive sales territories. Thus, a fair number of cases reveal that some attacks on patent validity were brought strategically by parties involved in disputes over cross-territorial sales.

Consider again the case of *Oscar Barnett Foundry Co. v. Crowe* (1912).<sup>23</sup> This was a typical franchise/exclusive territory business deal:

[T]he contract proceeds to give to the complainant [Oscar Barnett Foundry Co.] the sole and absolute license to manufacture and sell chain grate mechanical stockers [i.e., stokers, for steam boilers] under protection guaranteed and to be guaranteed by the United States Patent Office to the party of the first part on two patents which appear to have been pending, and a third which was in contemplation. A royalty was provided for the use of the invention, and the license was an exclusive one for the state of New Jersey and for some other states.<sup>24</sup>

When the licensor, Crowe, undertook to construct one of the patented coal stokers for a customer within the licensee’s exclusive territory, the equity court here saw the unfairness. If Crowe invalidated the Crowe patent, this would destroy the legal right that was the foundation for Barnett’s exclusive regional territory:

I think that [Crowe] meant to license the Barnett Company, and I think the Barnett Company meant to get a license from him to use all the patents and all the inventions and all the improvements that are mentioned in this contract anywhere. Now, if that is so, then the action of Mr. Crowe in building a mechanical chain grate stoker for the Commercial Trust Company in Jersey City was a gross violation of his contract, and it is a subject-matter over which the court of chancery has jurisdiction.<sup>25</sup>

The court saw the patentee-licensor, Crowe, as an opportunist. So, it acted to cut off Crowe’s legal strategy, so as to preserve the integrity of the exclusive territorial arrangement Crowe had earlier agreed to.

Other cases reveal the same impulse.<sup>26</sup> Which makes sense in the relevant business context of the day. Exclusive regional sales territories were very often

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But it is the settled rule with respect to the construction of patents that the prior state of the art is admissible in evidence “to show what was then old, to distinguish what was new, and to aid the court in the construction of a patent.”

<sup>23</sup> *Oscar Barnett Foundry Co. v. Crowe*, 86 A. 915 (N.J. 1912).

<sup>24</sup> *Id.* at 915.

<sup>25</sup> *Id.* at 916.

<sup>26</sup> *See, e.g., Curran v. Burdsall*, 20 F. 835, 836–38 (N.D. Ill. 1883), in which the court showed a sensitivity to opportunism and tried to prevent patent law from serving that end. The *Curran* court invoked a broad estoppel principle to prevent a scheme by the inventor-assignor Curran from frustrating the rights of Curran’s regional assignee for part of the State of Wisconsin. The scheme went like this: Curran acquired an older patent which he claimed dominated his own patent (the one assigned to Burdsall et al. for an exclusive territory in

structured using patent assignments from roughly 1820 to the early twentieth century.<sup>27</sup> So conflicts over territories or other business disputes—which often involved a regional assignee and the patent owner/assignor—played out as patent cases in the courts. In this setting, assignor estoppel was often invoked to preserve the structure or substance of an earlier bargain that one of the parties sought to disrupt by means of a charge of patent invalidity.

Consider *Underwood v. Warren* (1884).<sup>28</sup> In that case, a three-member partnership (Underwood, Warren, and March) was organized around a patent issued to inventor and partner Flavius J. Underwood.<sup>29</sup> Warren and March later decided to leave and form their own two-person partnership.<sup>30</sup> They assigned their respective interests in the Underwood patent back to Underwood, the original inventor.<sup>31</sup> However, after the assignment, the new Warren-March partnership began making and selling the device (a mechanical drill for laying railroad tracks) covered by the Underwood patent.<sup>32</sup> When Underwood sued the former partners for patent infringement, Warren and March sought to invalidate Underwood’s patent.<sup>33</sup> No dice, said the court: “Warren and March conveyed all their interest [in the patent] to plaintiff [Underwood] for full consideration. This court, at its last term, examined at length all of the points substantially in-

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Wisconsin.) *Id.* at 836. The newly-acquired patent was, Curran said, both valid and broader than Curran’s own patent, which meant that the practice of the Curran invention infringed the claims of this newly-acquired patent. *Id.* This in turn would permit Curran to move into the exclusive licensee’s territory, either to compete with the licensee Burdsall or collect a fresh, additional payment. This the court was unwilling to tolerate:

Complainant Curran, having set forth in his patent [the design of a mechanism for drying lumber], is now estopped from defeating the right of defendant to construct lumber-driers in accordance with the terms of the patent by the purchase of the older patent . . . . It is true, two other persons are associated with Curran in the ownership of the [older] patent, but it seems to me the estoppel upon Curran must operate as a license from Curran to defendant to use the [older] patent in the state of Wisconsin, and Curran’s co-owners must look to him for an accounting as to this territory.

It would hardly seem necessary to cite authorities in support of this palpable equity of defendant against Curran and his co-complainants . . . .

. . . .

The rule deducible from these authorities is that a patentee cannot sell his rights to another and then buy or obtain control of an older patent, and through such older patent dispossess his assign of the full benefit of what he purchased.

*Id.* at 837–38.

<sup>27</sup> See ROBERT P. MERGES, *AMERICAN PATENT LAW: A BUSINESS AND ECONOMIC HISTORY* (2022), at ch. 3, “The Jacksonian Era and Early Industrialization, 1820-1880,” and ch. 4, “Corporatization, 1880-1920.”

<sup>28</sup> *Underwood v. Warren*, 21 F. 573 (C.C.E.D. Mo. 1884).

<sup>29</sup> *Rumsey v. Buck*, 20 F. 697, 697 (C.C.E.D. Mo. 1884).

<sup>30</sup> *Id.* at 697–98.

<sup>31</sup> *Id.*

<sup>32</sup> *Id.* at 698.

<sup>33</sup> *Underwood*, 21 F. at 573.

volved, and held that the respective parties defendant were estopped from disputing the validity of plaintiff's right."<sup>34</sup>

The earlier decision referred to (from the court's "last term") came in the case of *Rumsey v. Buck* (1884)<sup>35</sup> that dealt with some related transactions among the same parties. The *Rumsey* case also found the court applying estoppel against Warren and March—this time under a different patent, and under a different form of estoppel. *Rumsey* held that Underwood's former partners Warren and March were estopped from arguing that those operating under the Underwood patent nevertheless infringed the Beland patent, which was of course assigned to Warren and March when they terminated their partnership with Underwood.<sup>36</sup> (It is in form, then, a case of *assignee* estoppel). The *Rumsey* case came about this way: the same Flavius J. Underwood, separate from his partnership with Warren and March, had acquired partial (two-thirds) title to a third-party patent, covering an invention of one Beland, in the same field (railroad track drills) as that of the Underwood patent.<sup>37</sup> The inventor Beland assigned the remaining one-third interest in the Beland patent to a buyer named Rumsey.<sup>38</sup> Later, as part of the dissolution of his partnership with Warren and March, Underwood assigned his two-thirds interest in the Beland patent to Warren and March.<sup>39</sup> Because Warren and March later brought Rumsey into their business, the Warren-March-Rumsey team owned full title to the Beland patent.<sup>40</sup>

While Warren, March, and Rumsey were getting organized, defendant Buck was operating under a license from Underwood to practice the Underwood patent.<sup>41</sup> The next step was for Rumsey, Warren, and March to sue Buck, arguing that a license to the Underwood patent did not shelter Buck from being sued for infringement of the Beland patent.<sup>42</sup> The court—implicitly finding privity between Buck (the Underwood licensee) and Underwood himself—held that the plaintiffs (Rumsey et al.) were estopped from arguing that those operating under the Underwood patent nevertheless infringed the Beland patent.<sup>43</sup> The theory is murky. One possibility is that the court thought the facts here implicated the same policies as assignor and licensee estoppel: the duty of those selling a patent not to undermine its value at a later time. The idea as applied here is that when Warren and March assigned their interest in Underwood, and received ownership of Beland, the transaction came with some sort of implied

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<sup>34</sup> *Id.*

<sup>35</sup> *Rumsey*, 20 F. at 697.

<sup>36</sup> *Id.* at 699.

<sup>37</sup> *Id.* at 697.

<sup>38</sup> *Id.* at 698.

<sup>39</sup> *Id.* at 697–98.

<sup>40</sup> *Id.*

<sup>41</sup> *See id.* at 698.

<sup>42</sup> *Id.*

<sup>43</sup> *Id.* at 699.



promise that Warren and March would not render the Underwood patent ineffective or worthless. Since that would have been the result if Warren and March won their case against Buck, they lost.

Attacking validity is the typical way an assignor could destroy the value of the assigned patent, but there are other ways, as this case shows. Buck (and Underwood) claimed that the assignors of the Underwood patent (Warren and March) should be estopped from arguing that their Beland patent *dominated* the Underwood patent (in the sense that a license from Underwood did not insulate licensees from liability under the Beland patent).<sup>44</sup> Estoppel applied, the court hinted, because if the Rumsey, Warren, and March argument succeeded, it would destroy or badly damage the value of the Underwood patent—the very patent whose partial ownership Warren and March had assigned back to Underwood.<sup>45</sup> If the plaintiff’s strategy worked, Underwood’s licensees would need a license under the Beland *and* Underwood patents. The situation followed the same contours as classic assignor estoppel, with former assignors later seeking to devalue the assigned patent. This is apparently why the judge estopped Warren and March from undermining the value of the Underwood patent. One way to see the case is that if Warren and March had succeeded, the effect would have been to undo the basic deal made between Underwood, Warren, and March at the time their three-way partnership was dissolved. It seems likely the former partners had assumed that after dissolution each party could compete independently under their two respective patents.

Understanding this crucial business context also helps explain the limits to estoppel that developed in the same era. In particular, the prevalence of exclu-

<sup>44</sup> The situation is referred to as “blocking patents.” See generally Robert Merges, *Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents*, 62 TENN. L. REV. 75 (1994).

<sup>45</sup> Not many years later, another court took a different view of the same situation. In *Victor Talking Mach. Co. v. Am. Graphophone Co.*, 189 F. 359, 375–76 (C.C.S.D.N.Y. 1911), *aff’d sub nom.*, *Victor Talking Mach. Co. v. Am. Graphophone Co.*, 190 F. 1023 (2d Cir. 1911), the district court said:

I am unable to see how a license under the Jones patent [owned by American Gramophone] to the Victor Company taken before the [Johnson] patent in suit [was issued] to Johnson [and assigned to the Victor Company] . . . estops either the Victor Company or Johnson from asserting their rights under the Johnson patent when it did issue, even if its assertion amounts to a repudiation of the validity of the Jones patent. I am not aware that a licensee under a patent is estopped to purchase a valid patent subsequently issued to another, and which, if asserted, shows the prior patent under which the license was taken to have been invalid and anticipated, and then assert such patent by suit against all infringers including the licensor. I am not pointed to any case so deciding. It is true that a licensee in a suit for royalties agreed to be paid cannot set up and prove as a defense the invalidity of the patent . . . . However this does not decide that a licensee cannot become the owner of a valid patent covering the same invention after he takes his license, and prosecute all infringers.

In contrast to *Rumsey v. Buck*, this opinion in *Victor Talking Machine* did not involve a patent-centered partnership but instead two corporations deploying their patent portfolios for strategic advantage. See MERGES, *supra* note 27, at ch. 4, “Corporatization, 1880-1920.” This might explain the different holdings.

sive territorial assignments and licenses accounts for the rule that assignors and licensees could argue non-infringement if sued by the assignee or licensor, even as the estoppel rule put validity arguments out of reach. The reason is simplicity itself: aggressive infringement theories might permit a patent holder to exclude assignors and licensees from a bigger market, covering more variations on the patented technology than the assignor or licensee had contemplated. The courts allowed assignors and licensees to challenge infringement as a way of blocking patent holder opportunism. A patent holder might employ an aggressive infringement theory to in effect expand the scope of the licensed patent in a way that blocked the assignor or licensee from competing to develop or employ new technologies.

*a. Widening Holes, Diminished Core: Prelude to the Pro-Challenge Era*

The pattern set in the late nineteenth century continued in the twentieth. The counter-principles that would limit and constrain the estoppel doctrines took root, and grew at a healthy rate. One avenue of growth was the old doctrine of estoppel by deed. Courts began to limit the scope of assignor estoppel according to explicit representations in the text of the assigned patent. Though in some cases the late nineteenth century version of the rule was invoked,<sup>46</sup> more frequently courts strained to limit the doctrine in novel ways. So by 1940 we read:

[T]he principle of estoppel applicable to assignments or licensing of patents or applications therefor has its limits. A conveyance of this character purports to convey and is understood to convey nothing more than the interest or estate of which the assignor or licensor apparently is seized or possessed at the time, and does not operate to pass or bind an interest plainly non-existent [properties including new improvements and technology drawn from the prior art].<sup>47</sup>

In the just-cited case of *Stubnitz-Greene Spring Corp. v. Fort Pitt Bedding Co.* (1940), the plaintiff (Stubnitz-Greene) was assigned a patent application for an invention relating to seat cushion springs made by its employee.<sup>48</sup> That employee later left to form a competitor (Fort Pitt).<sup>49</sup> The plaintiff amended the assigned application to cover the seat cushion spring design that was the basis of the former employee's new company, Fort Pitt.<sup>50</sup> As the court said, "[the assignee] presented to the patent office the claims in suit and endeavored to have them read directly on [the assignor/new competitor's] device and for this rea-

<sup>46</sup> See, e.g., *Van Sant v. Dance*, 40 F.2d 547, 547 (D. Mass. 1930) ("[The assignor] sold his patent, and it has come by mesne [intermediate] assignment to the present plaintiff. Dance is, of course, estopped to deny its validity, although he is free to insist that the claims shall receive a correct construction in the light of the prior art.").

<sup>47</sup> *Stubnitz-Greene Spring Corp. v. Fort Pitt Bedding Co.*, 110 F.2d 192, 196 (6th Cir. 1940).

<sup>48</sup> *Id.* at 195.

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

son the doctrine of estoppel is inapplicable and to apply it in this action would be inequitable.”<sup>51</sup> In other words, because the claims asserted against the assignor differed from the gist of the invention as it stood when assigned, the assignor was free to challenge the validity of the patent. The ruling seems eminently fair, especially when you realize that the ex-employee was being sued for infringement under a patent issued to that employee for his own invention. In effect, the court said one could attack the validity of a patented invention if the ultimate claims in the patent varied significantly from the claims (and perhaps the thrust of the specification) of the patent at the time it was assigned. The claims-at-assignment, in other words, might define a different invention than the amended claims-at-time-of-enforcement. If so, and especially if the amended patent claims would appear to exceed what the specification of the assigned patent actually supports, the estoppel does not apply.<sup>52</sup>

Though appearing to maintain the balanced approach that had been traditional, the court signaled the palpable increase in hostility to assignor estoppel—a doctrine that “*closes the door of truth* [regarding patent validity] in particular cases and *is therefore frequently characterized as odious*.”<sup>53</sup> The Supreme Court in the recent *Minerva* case cited similar cases in holding that an assignor might attack validity when an assigned patent had undergone a significant change in form and terms post-assignment.<sup>54</sup>

<sup>51</sup> *Id.* at 196–97.

<sup>52</sup> *Id.* at 196:

If the assigned application for the patent bears on its face plain evidence that patentability is absent, no other facts or circumstances being present giving rise to the principle of estoppel, there can be no presumption that the assignee was influenced in making the purchase by the representations or recitals of the assignor. The doctrine of estoppel is founded when properly applied upon the highest principles of morality and recommends itself to the common sense of everyone.

<sup>53</sup> *Id.* (emphasis added):

[Assignor estoppel] closes the door of truth in particular cases and is therefore frequently characterized as odious, and often meets with disfavor. Its vitality is only present where but for its application an utterance by a party would convict him of previous falsehood, and authorize him to deny an affirmation upon which persons have dealt and pledged their credit or expended their money. It concludes the truth in order to prevent fraud and falsehood and imposes silence upon a party only when in conscience and honesty he should not be allowed to speak. Facts which are plainly obvious to an assignee at the time he contracts with an assignor cannot give rise to estoppel against the assignor, unless he had conveyed a precise, definite, legal, inchoate right by a solemn assurance which he should not in good conscience be permitted to vary or deny [which did not occur in this case by virtue of the post-assignment amendments].

<sup>54</sup> *Minerva Surgical, Inc. v. Hologic, Inc.*, 141 S. Ct. 2298, 2302 (2021) (“The doctrine [of assignor estoppel] applies when, but only when, the assignor’s claim of invalidity contradicts explicit or implicit representations he made in assigning the patent.”). Of note is that *Minerva* presented facts quite similar to the eighty-year-old case of *Stubnitz-Greene Spring Corp.* As in the older case, the assignee in *Minerva*, after the assignment, made significant changes in the claims of the assigned patent. These, the defendant/assignor argued, meant that the assignor was not estopped from arguing invalidity. In substance, as in *Stubnitz-Greene*, the patent asserted against the assignor is a different patent from the one assigned. This takes away the rationale behind assignor estoppel. Note that *Minerva* calls attention to patent amendments made to patents acquired on the open market (the “secondary” patent market, as

Some courts tried to prevent the various inroads on estoppel from causing it to crumble entirely, but it did not matter for long. The advent of the anti-monopoly Supreme Court of the 1940s soon overshadowed the back-and-forth sparring. When that Court surveyed the patent licensing scene, all it could see were contracts promoting economic concentration and thwarting healthy competition. The 1940s Court aggressively promoted the challenging of patents by any and all comers, including perhaps especially the contractual partners of patent owners—licensees and, almost-but-not-quite, assignors. Particularly in opinions by Justice Douglas, the cases no longer hinged on estoppel by deed, commercial morality, or the general support of private ordering. What mattered was the need to empower assignors and licensees to root out and expose invalid patents. More often than not the implication was that patents were a thin cover for anticompetitive acts. Maybe because the Court encountered some fairly egregious patent-based (or patent pretexted) monopolies in the twentieth century, it developed a marked antipathy to patents. The end of estoppel rules was only a small skirmish in an all-out assault on the clear and present danger of patent monopolies.<sup>55</sup>

The transition to the pro-challenge era, culminating in cases such as *Lear*, was a function of the rise of antitrust law. Politically, this was one manifestation of the Progressive era challenge to the concentration of power in the hands of large companies. Conceptually, the key was the association of patents with monopolies. This raised the stakes on the value of patent invalidation, flipping the balance that had traditionally tipped in favor of upholding integrity in the contracting process. Note that it *was* a balance; even the earliest cases recognized that patent invalidation had benefits for the public. But in those cases the benefits of invalidation were eclipsed by the importance of “fair dealing.”

This could be described as a changing calculus. The value of challenges goes up, due to a perceived increase in the social cost of living with invalid pa-

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it is known). In this market typically it is patent portfolios, rather than individual patents, that are sold. See generally ROBERT P. MERGES & HELEN (FANG) LIU, INTELLECTUAL PROPERTY STRATEGY FOR BUSINESS 248–58 (2020) (section on “Acquiring Other Companies’ Patents to Enhance Your Portfolio”). Quite often, a patent portfolio in this market includes “open applications,” pending patent applications spun off from patents now issued, which can be used as the basis of later-filed, broader patents. This strategy is often employed in an attempt to capture later-developed embodiments developed and sold by others. (These days, broadening amendments of this sort are likely to run into validity challenges under the written description requirement—a patentability test only recently located in section 112 of the Patent Act, and hence not yet present in patent law in 1940, when *Stubnitz-Greene* was decided.) On the practice of amending patent claims to cover a specific product sold by a competitor of the patentee, see Robert P. Merges, *Software and Patent Scope: A Report from the Middle Innings*, 85 TEX. L. REV. 1627, 1652–54 (2007) (describing a “misappropriation [of third party inventions] by amendment” rationale for written description in certain broadening-amendment cases where the amendment intentionally covers a clever variant on the invention, independently developed by a third party, where the new variant is covered only by the amended claim and not the claims of the patentee’s original application when filed).

<sup>55</sup> For a general overview, see generally MERGES, *supra* note 27, at ch. 5, “1921–1982: Patents In and Out of the Headlines.”

tents. But it might also be said to be a shift in emphasis, from property to monopoly. From private law values to public law values. The older cases understood patents as state-backed property rights that vest in private hands and form the scaffolding for numerous business arrangements. But that changed in the pro-challenge era. Beginning in the early twentieth century, patent-related contracts of all sorts were seen differently. The simple license, the joint venture, the commercialization agreement—these were lumped together with proven cases in which patents were used as the pretext for a cartel, or cases where a patent on one technology was leveraged blatantly in an attempt to dominate the market for a related product. The logic was simple (although usually wrong): monopolies and cartels can be formed under the pretext of patent transactions; therefore, all or most patent transactions are the pretext for cartels and monopolies. With this as the formative principle, a premium was placed on hunting down and rooting out invalid patents. Patent challengers became a new class of “private attorney general.”

One additional observation might be ventured. Characteristic of a private law orientation, the “fair dealing” era kept the public interest in patent invalidation mostly off to the side. Consistency and dependability in contracting was the paramount concern: classic private law values. In the pro-challenge era, the tables were turned. An “insider” to a patent deal—assignee or licensee—was deputized as an agent of the state. This party was empowered to break through the legal cordon erected by the contract, injecting a dose of public interest into the private precinct of the contracting parties.

Some courts tried to prevent the infringement exception from swallowing the estoppel rule, but it did not matter for long. The advent of the anti-monopoly Supreme Court of the 1940s soon put a definitive end to the old regime that had privileged private ordering over patent challenges. When that Court surveyed the patent licensing scene, all it could see were contracts promoting economic concentration and thwarting healthy competition. That Court not only failed to show solicitude for patents, it turned licensees (and, aspirationally, assignors) into allies in the campaign to expose and expunge odious monopolies. For Justice Douglas, patents were just so many rocks that needed to be turned over, to expose the fetid, slimy underbelly of illegitimate economic power for which they served as a convenient cover. (To be fair, the Court had indeed exposed some egregious market rigging and collusion conducted under the cover of patents.)<sup>56</sup> To the fast-growing field of antitrust law, patents

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<sup>56</sup> Any procession of patent-related perpetrators from this era would have to include *United States v. Line Material Co.*, 333 U.S. 287 (1948) (where patentee of electrical device incorporated price maintenance provisions in its licenses, cross-licensing agreement permitting sublicensees for the complementary licensed patent violated the Sherman Act, since it permitted patentee to fix prices on both patents, when otherwise they might have been substitutes); *Hazel-Atlas Glass Co. v. Hartford-Empire Co.*, 322 U.S. 238 (1944) (patent lawyer and company official concoct fake prior art article singing the praises of an invention in a patent application which later issued); *Hartford-Empire Co. v. United States*, 323 U.S. 386, *supplemented*, 324 U.S. 570 (1945) (glass industry cartel was structured in part by means of ex-

seemed mostly a threat to the public and its interests. Business-to-business contracts often looked like thinly-veiled efforts to join forces against the hapless consumer. So when contracts were formed around patents, the Court seemed to think nothing good, economically speaking, was likely to come from the combination. Suspicion over the social value of patents put them in the cross-hairs of the Court's implicit economic policymaking. The end of estoppel rules was only a small part of an unmistakable initiative to limit the economic power of patents.

With this framing, there was new interest in the contracting partners of a patent owner. These partners—licensees and assignors, primarily—were enlisted to serve the public interest. So, the cases no longer hinged on estoppel by deed or commercial morality, as they had since the early nineteenth century. What mattered now, in the 1940s, was the need to empower assignors and licensees to root out and expose invalid patents.<sup>57</sup>

The transition was unmistakably influenced by the case of *Scott Paper Co. v. Marcalus* in 1945,<sup>58</sup> whose sweeping language invited revisiting settled doctrine in light of the forceful new influence of the anti-monopoly/public interest rationale of cases from this era. *Marcalus* was about assignor estoppel. The defendant inventor Marcalus left plaintiff Scott Paper Company, founded a competing company, and was sued by Scott Paper for infringing his own patent that he had assigned to Scott Paper while he worked there.<sup>59</sup> Marcalus argued that the papermaking technology used by his new company was drawn completely from the prior art (i.e., from techniques known prior to the Marcalus invention assigned to Scott paper).<sup>60</sup> The Court permitted the defense, of course; it had become an established exception to the assignor estoppel doctrine.<sup>61</sup> But in ruling for defendant Marcalus, the Court utterly reframed the doctrine:

The aim of the patent laws is not only that members of the public shall be free to manufacture the product or employ the process disclosed by the expired patent, but also that the consuming public at large shall receive the benefits of the unrestricted exploitation, by others, of its disclosures. . . . If a manufacturer or user could restrict himself, by express contract, or by any action which would give rise to an “estoppel”, from using the invention of an expired patent, he would deprive himself and the consuming public of the advantage to be derived from his free use of the disclosures. The public has invested in such free use by the grant of a monopoly to the patentee for a limited time. Hence any attempted reservation or continuation in the patentee or those claiming under him of the

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clusive patent field of use licenses that allocated exclusive fields of manufacture [blown glass, plate glass, etc.] to the various cartel members).

<sup>57</sup> See, e.g., *Sola Elec. Co. v. Jefferson Elec. Co.*, 317 U.S. 173, 175 (1942) (declining to reexamine its prior decisions because “no price-fixing stipulation was involved in the license contract” at issue in those cases).

<sup>58</sup> *Scott Paper Co. v. Marcalus Mfg. Co., Inc.*, 326 U.S. 249, 249 (1945).

<sup>59</sup> *Id.* at 250–51.

<sup>60</sup> *Id.* at 251.

<sup>61</sup> *Id.*

patent monopoly, after the patent expires, whatever the legal device employed, runs counter to the policy and purpose of the patent laws. And for the same reason a stranger, such as respondent *Marcalus*, cannot, by securing and assigning a patent on the invention of the expired Inman patent, confer on petitioner any right to deprive the public of the benefits of the free use of the invention for which the public has paid by the grant of a limited monopoly.<sup>62</sup>

This passage is all about the public. The negotiations behind the contract, the business purpose behind the assignment or license—these are not mentioned. The entire private law backdrop of the contract is far offstage. To the extent contractual duties are alluded to, the most important duty is to parties *outside the contract*. Business partners of the patent owner must be free to invalidate the patent so as to benefit the public. For a party contracting with the patent owner to give away his right to challenge a patent that is in fact invalid “would deprive himself *and the consuming public* of the advantage to be derived from his free use of the [patent’s] disclosures.” In this telling, the public domain is so sacrosanct that even a party who had earlier contracted with the patent owner must—with no exceptions—be permitted to draw upon the subject matter covered by an invalid or expired patent. The essential public policy of hunting down monopolies renders an assignor or licensee an agent of the public—a role far transcending that of a mere business partner. Contracting parties who are well-positioned to compete with a patentee are therefore excused from contractual obligations.

One more point about the quoted passage from *Marcalus*. The Court sees dealings over patents later found invalid as especially important, and often especially egregious. There is, in the Court’s phrasings, a sense of nefarious skullduggery. The parties seem to wink across the bargaining table as they prepare their assignment or licensing deal. Justice Douglas seems to think that in any deal involving a later-invalidated patent, everyone is in on the scheme from the outset. Invalidity is taken to be, in other words, an implicit assumption behind the arrangement. This characterization leads to the statement in *Marcalus* that the patent at issue was no more than an intentional effort to re-patent the technology from an older, expired patent. Per Douglas, “*Marcalus*[] cannot, by securing and assigning a patent on the invention of the expired [prior art] Inman patent, confer on petitioner [Scott Paper] any right to deprive the public of the benefits of the free use of the invention for which the public has paid by the grant of a limited monopoly.” This is an odd way to describe a case about patentable novelty. It is the only place I know in the patent literature where someone says a patent invalidated as anticipated by a prior art patent was an intentional attempt to re-patent the material in the anticipating patent. The Douglas approach casts the anticipation test in a dark light indeed, when in reality it is often a highly technical inquiry whose outcome can be difficult to predict.

Soon after *Marcalus*, the Supreme Court showed that its broad language had teeth. A case combining price fixing in license agreements, combined with

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<sup>62</sup> *Id.* at 255–56.

no-patent-challenge clauses, was the coup de grace for licensee estoppel. In *Edward Katzinger Co. v. Chicago Metallic Manufacturing Co.* (1947),<sup>63</sup> the Court denied a patentee recovery for pre-patent-invalidation royalties, because the royalties were determined by a price fixing clause in the licensing agreement. The Court distinguished its own earlier cases on licensee estoppel, because none of them involved price fixing:

[T]he fact of subsequent [patent invalidation] does not free the promise to pay royalties from the taint of the price-fixing provision. Nor does the fact, if it be a fact, that [licensee] Metallic itself suggested the price-fixing provision, bar Metallic's challenge to the patent's validity. For the contract was still illegal, whoever suggested it, so that there is no less reason for leaving the way open to *challenge the patent as a service to the public interest* than if Katzinger had suggested price-fixing. Finally, Metallic's specific contract not to challenge the validity of Katzinger's patent *can no more override congressional policy than can an implied estoppel*.<sup>64</sup>

A testy dissent from *Katzinger* was set out in the companion case of *MacGregor v. Westinghouse Electric & Manufacturing Co.* (1947).<sup>65</sup> The dissent insisted that the Court take explicit notice of what the dissenters saw as the demise of licensee estoppel. There was special concern to note the very long pedigree and (until the 1940s) unanimity behind the estoppel rule:

These cases [*Katzinger* and *Westinghouse*] cannot be properly decided, I believe, without consideration of one of the oldest doctrines of the patent law, namely, that a licensee cannot challenge the validity of the patent though everyone else may.

Ninety years ago this Court unanimously announced the doctrine that a licensee under a patent is estopped from challenging the validity of that patent. *Kinsman v. Parkhurst*, 18 How. 289 [59 U.S. 289, 292-93 (1855)]. The case may perhaps be explained, or even explained away. But the rule it expressed had become so much part of our law that fifty years later the Court deemed it unnecessary to discuss it and unanimously applied it even against the United States as licensee. *United States v. Harvey Steel Co.*, 196 U.S. 310 [(1905) (Holmes, J.) (U.S. estopped as licensee to challenge validity of patent on steel armor plating for battleships)].

Before those cases and since, in all English-speaking jurisdictions, in the courts of England, of the Dominions and of the various States, as well as in the lower federal courts, where most patent litigation originates and stops, a weighty body of cases affirmed and applied that doctrine with rare unanimity. This Court has never questioned the rule. The principle has withstood judicial scrutiny for nearly a century.

Nor has the operation of the rule revealed inroads upon the public interest so as to stir efforts for its abrogation or restriction by Congress. Patent policy has been frequently reconsidered, and some rules formulated by courts were eliminated or modified. Yet in none of the four major patent statutes nor in any of the

<sup>63</sup> *Edward Katzinger Co. v. Chicago Metallic Mfg. Co.*, 329 U.S. 394, 395 (1947).

<sup>64</sup> *Id.* at 401-02 (emphasis added).

<sup>65</sup> *MacGregor v. Westinghouse Elec. & Mfg. Co.*, 329 U.S. 402, 408 (Frankfurter, J., dissenting).



other numerous amendatory enactments was attempt made to abolish or limit estoppel in favor of the licensor. The Patent Office, charged by Congress with supervision of the patent system and the source of many suggestions enacted into law, has never included among its proposals recommendation to alter that doctrine.<sup>66</sup>

Even aside from *Katzinger* and *MacGregor*, the shadow of *Marcalus* was widely seen as having eclipsed the doctrine of licensee estoppel. The Ninth Circuit, writing in 1949, struggled to see what was left of the venerable old rule:

If the courts had not heretofore practiced restraint in their application of the estoppel principle in patent cases it would surely be their business to do so now in light of *Scott Paper Co. v. Marcalus Mfg. Co.* . . . . There the Court *brought into the foreground the public interest in the free exploitation and distribution of appliances not truly the subject of a patent monopoly, relegating judicial concern as respects private good faith to an undefined and shadowy, but certainly a secondary, place.* It is true that the alleged infringing device in that case was that of an expired patent, and the Court endeavored carefully to limit its holding to the immediate situation before it; but there can be no doubt that *estoppel to question the novelty of a patented device must now be considered a doctrine of very limited validity.*<sup>67</sup>

Despite all these portents, until the final nail was driven home, at least some observers continued to believe that the estoppel doctrines might have some life left in them.<sup>68</sup>

### B. *The Reign of Lear*

By the 1960s, when it came to the estoppel doctrines, the preliminary acts were over and the inevitable dénouement was at hand. Enter *Lear*, triumphant in finality; exeunt, stage left, all those old estoppel cases.

It was not just what *Lear* said—estoppel is gone, the public interest demands it—but how the opinion said it. The old private law values behind the estoppel rules were simply superseded by the new emphasis on guarding the public domain. What mattered now: “[T]he important public interest in permitting full and free competition in the use of ideas which are in reality a part of the public domain.”<sup>69</sup> Against both the dire insult the public suffers whenever a licensee is “muzzled” and the harm it suffers when a latently invalid patent is

<sup>66</sup> *Id.* at 408–10 (Frankfurter, J., dissenting).

<sup>67</sup> *Douglass v. U.S. Appliance Corp.*, 177 F.2d 98, 101 (9th Cir. 1949) (emphasis added).

<sup>68</sup> Hal D. Cooper, *Estoppel to Challenge Patent Validity: The Case of Private Good Faith vs. Public Policy*, 18 W. RES. L. REV. 1122, 1123 (1967) (footnotes omitted):

Over forty years ago the United States Supreme Court described the doctrine as being “well-settled by forty-five years of judicial consideration.” Yet this “well-settled” rule has become so unsettled during the past forty years of judicial consideration that, today, some courts apparently consider the rule to be no longer valid, others find no weakening of the rule, while still other courts apply the rule only after considerable speculation as to its continued validity.

<sup>69</sup> *Lear, Inc. v. Adkins*, 395 U.S. 653, 670 (1969).

allowed to stay in force, “the equities of the licensor do not weigh very heavily” and so “the technical requirements of contract doctrine must give way before the demands of the public interest.” In full:

[T]he licensor’s equities are far from compelling. A patent, in the last analysis, simply represents a legal conclusion reached by the Patent Office. Moreover, the legal conclusion is predicated on factors as to which reasonable men can differ widely. Yet the Patent Office is often obliged to reach its decision in an *ex parte* proceeding, without the aid of the arguments which could be advanced by parties interested in proving patent invalidity. Consequently, it does not seem to us to be unfair to require a patentee to defend the Patent Office’s judgment when his licensee places the question in issue, especially since the licensor’s case is buttressed by the presumption of validity which attaches to his patent. Thus, although licensee estoppel may be consistent with the letter of contractual doctrine, we cannot say that it is compelled by the spirit of contract law, which seeks to balance the claims of promisor and promisee in accord with the requirements of good faith.

Surely the equities of the licensor do not weigh very heavily when they are balanced against the important public interest in permitting full and free competition in the use of ideas which are in reality a part of the public domain. *Licenses may often be the only individuals with enough economic incentive to challenge the patentability of an inventor’s discovery. If they are muzzled, the public may continually be required to pay tribute to would-be monopolists without need or justification.* We think it plain that the technical requirements of contract doctrine must give way before *the demands of the public interest* in the typical situation involving the negotiation of a license after a patent has issued.<sup>70</sup>

### 1. *The Special or Unique Challenger Rationale*

Cases like *Lear* suggest that licensees are not “just another” patent challenger, but instead an *especially effective* challenger. This theme is prominent in *Lear v. Adkins*, in which the Supreme Court rejected the argument that a patent owner had equity on its side in fighting off a validity challenge by a patent licensee. To repeat, the Court said: “*Licenses may often be the only individuals with enough economic incentive to challenge the patentability of an inventor’s discovery. If they are muzzled, the public may continually be required to pay tribute to would-be monopolists without need or justification.*”<sup>71</sup>

The language chosen for this passage is instructive. The Court speaks of a no-challenge clause or rule as a “muzzle[.]” preventing the beleaguered licensee from speaking out about an invalid patent.<sup>72</sup> This links nicely with the preferred

<sup>70</sup> *Id.* at 670–71 (emphasis added).

<sup>71</sup> *Id.* at 670 (emphasis added).

<sup>72</sup> *Id.* This is an odd reversal of the imagery used in the old cases that first announced the principle of licensee estoppel. *See, e.g.,* Oscar Barnett Foundry Co. v. Crowe, 86 A. 915, 916 (N.J. 1912) (disallowing licensee’s attempt to challenge validity of a patent that licensee implicitly considered valuable at time of license; arguments regarding validity “do[] not lie in his [the licensee’s] mouth,” the same mouth that had earlier spoken words of support for the patent). *See* discussion *supra* Section I.A.1.

imagery of pro-*Lear* commentators who came to think of the licensee-patent challenger as a “private attorney[] general,” a private actor motivated by a government-backed incentive to root out corruption.<sup>73</sup> The incentive in the case of patent challenges is clear: the licensee can use the licensed technology without paying the negotiated patent royalty. The pursuit of these royalty savings turns the licensee into the most aggressive patent challenger on the scene, striking down monopolies for self-interest, and presumably lowering consumer prices in the bargain. Once unmuzzled, the licensee could both take a bite out of the cost it paid for the technology, and shout a warning to others about the dangers of unleashed monopolies running loose in the economy.

## 2. *Uneasy Lies the Crown: Critiques*

*Lear* met a mixed reception in the courts, but there is no doubt the pro-challenge rationale has become firmly embedded in the edifice of patent doctrine.<sup>74</sup> The academic literature was different. Led by the magisterial analysis of the case in Professor Rochelle Dreyfuss’ classic 1986 law review article, *Dethroning Lear*,<sup>75</sup> the academy never warmed to *Lear*. Beginning with Dreyfuss, the consensus was that *Lear* was just too one-sided, too oblivious to the costs of pro-challenge policies on patent-licensee bargaining and ultimately incentives to innovate. Per Dreyfuss,

[A] major flaw in the [Supreme] Court’s analysis in *Lear* was its failure to consider the economic function played by licensee estoppel. Focusing on a static view of federal policy favoring free dissemination of inventions that have already come into being, the Court condemned the estoppel rule as merely a device that allows patentees to enlarge their patent grants and bar public access to unpatentable discoveries. But the rule has significant dynamic implications as well, for it influences the allocation of risks between patentees and licensees and affects investment decisions. Provisions requiring licensees to pay royalties even

<sup>73</sup> See Rochelle Cooper Dreyfuss, *Dethroning Lear: Licensee Estoppel and the Incentive to Innovate*, 72 VA. L. REV. 677, 686–87 (1986) (emphasis added) (footnotes omitted):

The response to *Lear* was mixed. The narrow decision to allow licensees to challenge the validity of patents was generally perceived as a good one because it created “private attorneys general” who had an incentive to benefit the public by releasing invalidly patented inventions for public use. Its broader implications, however, caused concern because they left inventors uncertain about their rights to exploit discoveries and severely diminished the impetus to innovate. Decisions following *Lear* have failed to resolve these problems.

See also Rochelle Cooper Dreyfuss & Lawrence S. Pope, *Dethroning Lear? Incentives to Innovate After MedImmune*, 24 BERKELEY TECH. L.J. 971, 974 (2009) (“[I]t appears that the public will benefit from [the] *MedImmune* [decision, permitting licensees to challenge a patent while remaining covered by the license] because the decision effectively anoints a new group of ‘private attorneys general’ with freedom to patrol the patent landscape and invalidate patents. But the asymmetries in the parties’ bargaining positions will ultimately endanger the public interest in scientific progress.”) (emphasis added).

<sup>74</sup> See, e.g., *Timely Prods., Inc. v. Costanzo*, 465 F. Supp. 91, 96 (D. Conn. 1979) (“[O]nce a patent issues, *Lear* precludes enforcement of any contract provision that eliminates the licensee’s incentive to challenge the patent’s validity.”).

<sup>75</sup> Dreyfuss, *supra* note 73.

after patent lapse and agreements requiring licensees to waive the right to contest patent validity allocate to the licensee a portion of the risk that the patent will be denied or subsequently held invalid and therefore enhance the value of discoveries to their inventors. Hybrid agreements, which license both patents and other intellectual property, typically trade secrets, have the same effect. Because these hybrid contracts provide for royalty payments as consideration for practicing both the patent and trade secret elements of a license, they require licensees to continue paying royalties even after the patents have lapsed. Thus, they too permit inventors to disclose their inventions as required by patent law with confidence that they will be able to extract profits from the use of their discoveries even if their patents are later held to be invalid. But although these agreements serve a useful function in promoting innovation, they have been condemned under *Lear* because the continued royalty provisions discourage licensees from attacking the validity of patents.<sup>76</sup>

*Lear*, Dreyfuss says, piles another unwelcome risk on the backs of small, innovative patent licensors. The mandatory pro-challenge policy makes it impossible for a licensee to reassure a wary patent owner by taking validity challenges off the negotiating table.<sup>77</sup>

In a later article,<sup>78</sup> Dreyfuss and a co-author identify the continuing influence of *Lear*, most importantly in the 2007 *MedImmune* decision.<sup>79</sup> This case permits patent licensees to challenge the validity of a licensed patent without first terminating the license.<sup>80</sup> Together with *Lear*, *Medimmune* slants the bargaining posture in the direction of the licensee:

[*MedImmune*] effects a dramatic change in the rules of the licensing game by substantially enhancing the bargaining position of the licensee to the detriment of the patent holder. The licensee can now seek a new arrangement any time it can mount a credible contract dispute. Furthermore, it can do so without taking any real risk, for if the patent is upheld, the licensee can continue to rely on the license. At the same time, the patent holder is trapped in a difficult situation. It is tied to a deal that is unraveling and encumbered with substantial risk: . . . any decision on patent invalidity will be good not only against the challenger, but also against the world.<sup>81</sup>

Even though invalidity is a risk, the authors note the possibility (perhaps likelihood) that the licensee challenge will lead to a settlement between the parties. If they settle, the patent remains valid as against others (the same outcome that results if patent validity is determined in an arbitration). Because of this

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<sup>76</sup> *Id.* at 680–81 (footnotes omitted).

<sup>77</sup> *Id.* at 681 (“By increasing inventors’ exposure to litigation and preventing them from allocating to others the risk that their patents will be invalidated, *Lear* has introduced uncertainties into the research and development cycle.”).

<sup>78</sup> Dreyfuss & Pope, *supra* note 73.

<sup>79</sup> *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118 (2007).

<sup>80</sup> *Id.* at 137.

<sup>81</sup> Dreyfuss & Pope, *supra* note 73, at 973–74.

possibility, there is no guarantee that *Lear* leads inexorably to more actual invalidations.<sup>82</sup>

To sum up: *Lear* locked into place a strong pro-challenge policy that reversed a long history of solicitude for patent owners in the context of patent-related transactions. Although the Federal Circuit refused to extend *Lear* so as to eliminate assignor estoppel<sup>83</sup> (a move recently largely ratified by the Supreme Court),<sup>84</sup> it is yet the law of the land.<sup>85</sup> For the reasons so well argued by Rochelle Dreyfuss, that should end. I elaborate on Professor Dreyfuss's arguments in the Section that follows, showing in detail how the *Lear* rule affects patent owner-business partner licensing negotiations. I also add in a discussion of the advent of IPRs and other Patent Trial and Appeal Board (PTAB) invalidity proceedings. All of which amounts to a mere updating and fleshing out of what Professor Dreyfuss taught so well in 1986.

### 3. *Advent of the Easy Challenge Era: The Post-AIA Landscape for Patent Challenges*

The massive wave of patent litigation that began in the late 1990s put an enormous strain on large manufacturing companies (who were constantly being

<sup>82</sup> *Id.* at 974 (“At the time of a challenge, the risk that the patent will be invalidated could lead the patent holder to settle on highly unfavorable terms. In such cases, the patent will remain in force. Accordingly, society will not gain free access to the invention. The patent holder will, however, lose revenue, leading to an impairment of patent value and a decrease in incentives to invent.”).

<sup>83</sup> *See* *Diamond Sci. Co. v. Ambico, Inc.*, 848 F.2d 1220, 1224–25 (Fed. Cir. 1988) (“To allow the assignor to make that representation [of the worth of the patent] at the time of the assignment (to his advantage) and later to repudiate it (again to his advantage) could work an injustice against the assignee. . . . [D]espite the public policy encouraging people to challenge potentially invalid patents, there are still circumstances in which the equities of the contractual relationships between the parties should deprive one party . . . of the right to bring that challenge.”); *Studiengesellschaft Kohle, M.B.H. v. Shell Oil Co.*, 112 F.3d 1561, 1568 (Fed. Cir. 1997) (“Following the reasoning of *Diamond Scientific*, this court must prevent the injustice of allowing Shell to exploit the protection of the contract and patent rights and then later to abandon conveniently its obligations under those same rights.”).

<sup>84</sup> *Minerva Surgical, Inc. v. Hologic, Inc.*, 141 S. Ct. 2298, 2308 (2021).

<sup>85</sup> And efforts to circumvent it have not been successful. *See, e.g.,* *Alexsam, Inc. v. MasterCard Int'l Inc.*, No. 15-CV-2799, 2017 WL 3534997, at \*3 (E.D.N.Y. Aug. 17, 2017) (quoting *Lear, Inc. v. Adkins*, 395 U.S. 653, 670 (1969)) (refusing to find a licensee patent challenge violates the covenant of good faith and fair dealing: “[W]ell-established Supreme Court precedent bars Alexsam’s proposed claim for breach of the covenant of good faith and fair dealing [citing *Lear*]. . . . To that end, licensees like MasterCard are uniquely situated to ‘challenge the patentability of an inventor’s discovery,’ and ‘[i]f they are muzzled, the public may continually be required to pay tribute to would-be monopolists without need or justification.’ To hold, as Plaintiff urges, that licensees may challenge patents but also be simultaneously liable for breach of the covenant of good faith and fair dealing would surely chill the licensee’s willingness to challenge those patents at all, to the detriment of the public at large. As a result, the ‘technical requirements of contract doctrine must give way before the demands of the public interest.’ ”).

sued for patent infringement) and the district court system.<sup>86</sup> The “patent reform” movement took shape to alleviate this strain. In 2011, Congress passed the America Invents Act (AIA), the first major overhaul of US patent law since the 1952 Patent Act. The AIA worked a number of big changes to patent law; most important was the launch of Inter Partes Review (IPR)—a robust but focused patent validity trial conducted by administrative judges working from the Patent Office.

IPRs were designed to lower the cost of challenging patent validity. Traditionally, if you wanted to invalidate a patent, your best bet was to wait to be sued for infringement. Then you could raise invalidity as a defense. Before getting to the question of infringement, a district court judge would take a close look at the claims asserted in the case and re-run the initial Patent Office analysis of validity. Only the judge had the assistance of counsel for the infringer, who in turn typically had access to far more information and far more resources than the original patent examiner had when the patent was initially being prosecuted at the Patent Office.

But there was a problem with this arrangement. It is expensive, and it takes a long time.<sup>87</sup> Part of the expense is just that the inquiry into the prior art, and the patent’s real contribution to that art, is performed with great care in the presence of a motivated adversary. Federal court litigation is expensive, given the strong American commitment to thorough due process. Another part of the expense is that the decisionmakers are almost never experts in the technology related to the patent. Education is costly (see, e.g., your most recent tuition bill). To talk about patent validity, you must first bring a generalist federal judge, and often a federal jury of lay people, up to speed on the relevant technology: software, semiconductors, pharmaceutical products, or one of the many other subjects covered by US patent. Whatever the field, the decisionmaker must first be taught what the field is about, what problem the patented invention was aimed at, and how it solved that problem.

While litigation is designed to resolve disputes, the very cost of it creates problems. But one company’s problem is another company’s (or lawyer’s) opportunity. When the defendant in a lawsuit potentially faces high costs, while the plaintiff does not, settlement may make sense. The plaintiff will pay out a settlement if it is less than the potential cost of litigation. (And this cost includes the possibility—maybe small, but very real—of a huge jury verdict in favor of the plaintiff). With enough lawsuits, and enough lucrative settlements, the plaintiff lawyer (or company) has themselves a tidy business. This dynamic is common in areas such as personal injury suits and securities law “market loss” suits. It is also the driving force behind “patent trolls.” And it explains why IPRs came to pass as an important new feature of patent disputes. Produc-

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<sup>86</sup> For background to this section, see generally Robert P. Merges, *The Trouble with Trolls: Innovation, Rent-Seeking, and Patent Law Reform*, 24 BERKELEY TECH. L.J. 1583 (2009).

<sup>87</sup> For background to this section, see generally ROBERT P. MERGES & JOHN F. DUFFY, *PATENT LAW AND POLICY: CASES AND MATERIALS* 959–62 (8th ed. 2021).

tive companies that were being deluged by patent suits pushed hard for the AIA, and for IPRs in particular. The goal was to lower the cost of patent invalidation. And thus, to lower the leverage patent owner/plaintiffs have when it comes to patent litigation. When it is cheaper to invalidate a patent, the defendants (accused infringers) have a powerful source of counter-leverage that undermines the profitability of the patent lawsuit business. This, then, was the organizing principle behind the IPR: as long as it is cheaper and faster than district court litigation, and as long as it *replaces* rather than *supplements* the patent validity stage of a district court trial, it can help deflate the incentive for patent troll litigation. Again, efficiency is the watchword. As the Supreme Court said in 2020:

By providing for inter partes review, Congress, concerned about overpatenting and its diminishment of competition, sought to weed out bad patent claims efficiently. . . . [citing House Report:] “The legislation is designed to establish a more efficient and streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs.”<sup>88</sup>

Data from 2017 through 2021 shows Congress getting what it wished for. IPR institution requests run at roughly one thousand five hundred per year. Since 2020, about 60 percent of these requests succeed—an IPR was declared, and some or all of a patent’s claims put at risk of invalidity.<sup>89</sup> After institution, the odds favor the challenger:

If an IPR is instituted . . . the claim cancellation rate has remained high since the beginning: as of Feb. 1, 2015, 71% of instituted claims were cancelled by PTAB, in May 2017 the rate was 74%, and as of July 31, 2021, the rate is 71%. For [the allied challenge proceeding, Post Grant Reviews,] the rate is even higher: 82% of instituted claims are cancelled by PTAB as of July 31, 2021.<sup>90</sup>

IPRs have quite simply revolutionized patent invalidity challenges in the US. According to one scholar:

In terms of cost and ease of access, IPR has undoubtedly been a success. Several years after IPR’s launch, practitioners reported that the cost of litigating an IPR to a final written decision was about \$324,000, which pales in comparison to the \$1-2 million reported cost of litigating a patent in court. The volume of patent invalidations has expanded as well. Whereas district courts previously invalidated about 80 patents a year on prior art grounds, the Patent Trial and Appeal Board (“PTAB”) now invalidates about 280 patents a year through IPR.

<sup>88</sup> *Thryv, Inc. v. Click-To-Call Techs., LP*, 140 S. Ct. 1367, 1374 (2020) (footnote and citation omitted).

<sup>89</sup> Gracie K. Mills et al., *10-Year Anniversary of the AIA at the PTAB—Not Your Grandparents’ U.S. Patent Law*, FINNEGAN (September 16, 2021), <https://www.finnegan.com/en/insights/blogs/at-the-ptab-blog/10-year-anniversary-of-the-aia-at-the-ptabnot-your-grandparents-us-patent-law.html> [https://perma.cc/F8YK-Z6VN] (This “institution rate” spiked initially, which was widely attributed to “low hanging fruit”: manifestly invalid patents, which challengers jumped on and weeded out. The long-term institution rate seems more likely to settle somewhere near the current 60 percent.).

<sup>90</sup> *Id.* (citations omitted).

Largely due to this new procedure, the number of patents invalidated based on prior art increased by at least 400 [percent] between 2011 and 2017.<sup>91</sup>

The available research supports the idea that IPRs are targeting precisely the low-quality patents Congress had in mind when enacting the AIA in 2012.<sup>92</sup> Whatever part of the patent stadium you sit in, then, the scoreboard reads the same: IPRs are winning. They are a huge success.

This new era of easy patent challenges affects all sorts of businesses and their patent-related dealings. Because an IPR can be initiated by anyone at any time, the patent challenger can initiate the action when dealing with a patent owner—a significant expansion of the challenger’s strategic options. Any time a patent owner signals even the possibility of an enforcement campaign, competitors can file IPRs, shifting the initiative and putting the enforcing patent owner on the defensive. For corporate acquisitions in which patents are an important part of the target firm’s value, a few selected IPRs might be initiated in an effort to push down the price the acquiring firm has to pay. In these and many other ways,<sup>93</sup> IPRs (or even the threat of one) represent one of the most momentous changes in patent enforcement in the history of US patent law.

<sup>91</sup> Stephen Yelderman, *Prior Art in Inter Partes Review*, 104 IOWA L. REV. 2705, 2706 (2019) (footnotes omitted); see also AM. INTELL. PROP. L. ASS’N, AIPLA 2019 REPORT OF THE ECONOMIC SURVEY 56, 61 (2019) (reporting compiled costs of patent infringement litigation when less than \$1 million at stake totaling more than \$725,000 through appeal, while reporting costs of an IPR through appeal of \$443,000).

<sup>92</sup> Brian J. Love et al., *Determinants of Patent Quality: Evidence from Inter Partes Review Proceedings*, 90 U. COLO. L. REV. 67, 68 (2019) (“Our findings . . . suggest that inter partes review is, as Congress intended, eliminating patents that appear to be of relatively low quality.”).

<sup>93</sup> To choose just one example, consider cases where a patent owner’s preliminary injunction motion fails because of the high likelihood of patent invalidity when the PTAB has granted an IPR institution request for the same claims that form the basis of the injunction request. See, e.g., *Adidas Am., Inc. v. Skechers USA, Inc.*, No. 3:16-cv-1400-SI, 2017 WL 2604310, at \*5–6 (D. Or. June 12, 2017) (denying preliminary injunction, and finding that the PTO’s institution of an IPR proceeding showed there was a substantial question of invalidity: “Adidas has not shown a likelihood of success on the merits. In its decisions instituting IPR for [two related IPR] [p]etitions, the PTAB determined that Skechers ‘establishes a reasonable likelihood that [it] will prevail in showing the unpatentability of at least one of the [asserted] claims’ in each of the patents-in-suit. The PTAB’s conclusion demonstrates that there is at least a substantial question regarding the validity of the asserted patents. As reflected in the PTAB’s most recent statistics, after IPR is instituted, 81 percent of the IPRs that reach a final written decision result in invalidation of at least some of the challenged claims, and 65 percent invalidated all of the challenged claims. In considering a patentee’s motion for preliminary injunction in a lawsuit alleging patent infringement, a court may consider the PTAB’s grant of IPR as a relevant factor when assessing the plaintiff’s likelihood of success on the merits.”) (citations omitted); *TAS Energy, Inc. v. Stellar Energy Americas, Inc.*, No. 8:14-cv-3145-T-30MAP, 2015 WL 6156149, at \*7 (M.D. Fla. Oct. 19, 2015) (citing *Procter & Gamble Co. v. Kraft Foods Glob., Inc.*, 549 F.3d 842, 847–48 (Fed. Cir. 2008)) (“The PTAB’s decision [granting IPR] is relevant to the Court’s evaluation of [the plaintiff’s] likelihood of success on the merits.”); *Procter & Gamble Co.*, 549 F.3d at 847 (advising the district court, pre-AIA, on remand to “consider the current posture of the inter partes reexamination proceedings at the PTO when evaluating [the plaintiff’s] likelihood of success on the merits.”).



The cases that culminated in *Lear* long predate this revolution. Because they are premised on scarce and expensive patent challenges, those cases are now badly out of date. The radically altered landscape of patent challenges is, logically, enough of a basis on which to overrule these cases. But there are even more reasons to challenge the older cases—reasons based on a new and improved understanding of the importance of patent licensing and similar transactions. This is the topic we turn to now.

## II. PATENT LICENSING AND THE ECONOMICS OF PATENT-BASED TRANSACTIONS

When the sole focus of policy is rooting out illicit monopolies, there is little concern for the benefits of patent licensing. But as I have emphasized, “monopoly hunting” is considerably easier now, post-AIA, than in the era when the law aimed to empower licensing partners as “private attorneys general.” That makes this a good time to look into patent licensing: why firms do it, why it can be important, and what makes it more or less effective. Tallying the benefits of licensing will allow us to look with more care at the downside of pro-patent-challenge doctrines. Instead of talking only about eliminating monopolies via patent challenges, we can gain an appreciation for the other side of the story: how pro-challenge doctrines reduce negotiating options and impede the trust-building process in technology exchange relationships.

One summary of the licensing literature says this:

From a social welfare perspective, licensing has many potentially positive effects. Licensing of patents increases the diffusion of technology, facilitates vertical specialisation and the division of tasks between companies and prevents R&D duplication in the economy. Licensing can boost downstream competition by reducing barriers to entry related to R&D. Returns from licensing can be in turn invested on further innovation by licensors. Finally, licensing facilitates the exploitation of a technology at a larger scale than if the patentee did it alone: licensing permits commercialisation of technologies across industries, on a larger geographical scale, in countries or regions where the patentee does not operate.<sup>94</sup>

Licensing gives firms flexibility. It allows firms to respond to a new technology or other competitive threats quickly, without taking the time to develop internal resources:

Licensing affects innovation, because firms incorporate and recombine licensed knowledge into their ongoing R&D efforts. Drawing on the characteristics of licensing, we suggest that licensing-in facilitates a prompt and focused response to competitors, because firms can integrate existing externally developed tech-

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<sup>94</sup> Maria Pluvia Zuniga & Dominique Guellec, *Who Licenses Out Patents and Why? Lessons from a Business Survey*, OECD SCI., TECH. AND INDUS. WORKING PAPERS, No. 2009/5, 6 (Mar. 31, 2009), <https://www.oecd.org/science/inno/42477187.pdf> [<https://perma.cc/95TH-44EM>].

nologies with their internal R&D. Thus, licensing is an important means through which firms can innovate in areas where they are under competitive pressure.<sup>95</sup>

#### A. *Patents, Trade Secrets, and Know-How (TS/KH)*

A license of patent rights gives the licensee the right to practice the patented (i.e., claimed) invention—to commit acts that would be infringing in the absence of the license. Patent licenses come in two primary flavors: (1) a bare transfer of legal rights, and (2) an exchange rooted in the patent but extending beyond it to include ancillary information in the form of patent-related trade secrets and know-how.

A bare patent license permits the licensee to escape legal liability, but it will not usually be enough to instruct and guide the licensee in all the nuances of the claimed technology. Most patent infringement cases, for example, end with a settlement in the form of a bare legal license. In those cases, in which the defendant in the infringement suit independently developed the infringing technology and learned little or nothing about the relevant technology from the licensed patent or its owner, the economic function of the license is simply to end a dispute. The licensee learns nothing from the patent owner. No new information or capabilities pass between them. Transactions like this may have their purpose, but they do not, in general, facilitate a division of inventive labor or a value-adding integration of components and skills supplied by the two parties to the license.

In many other cases, however, the patent rights in a license are accompanied by trade secrets and know how (TS/KH).<sup>96</sup> These are richer and deeper ex-

<sup>95</sup> Solon Moreira et al., *Competition, Technology Licensing-in, and Innovation*, 31 ORG. SCI. 1012, 1013 (2020).

<sup>96</sup> See Christian Bessy & Eric Brousseau, *Technology Licensing Contracts: Features and Diversity*, 18 INT'L REV. L. & ECON. 451, 454, 461 (1999) (references and footnotes omitted):

[T]echnology licensing implies many transfers in addition to the patent description: private information that is not capable of being patented [industrial secrets and test data, among other things], . . . training, technical support, consultant services . . . equipment, and other physical resources that are essential to implement and use the technique. In our sample [of 30 French firms involved in licensing], 78.6% of [technology licensing agreements, or] TLAs cover the provision of technical test data and development data in addition to the transfer of the right to use them. The proportion reaches 76% for technical support, 67.4% for prototypes and physical resources, the same percentage for plans and manuals (“red books”), 65% for employee training, 60.8% for commercial data, and 56.5% for employee delegation in the licensees facilities.

See also Dreyfuss, *supra* note 73 at 693 n.66:

A recent survey of 150 randomly selected corporations designed to elicit information relating to licensing agreements, although too limited to yield statistically significant conclusions, reveals some interesting trends. See [Michael] Rostoker, *PTC Research Report: A Survey of Corporate Licensing*, 24 IDEA 59 (1983). A majority of all licenses contained both patent and know-how components, *id.* at 63, with compensation usually provided by royalties, sometimes coupled with an initial lump sum payment, *id.* at 64. In the chemical, mechanical, and pharmaceutical industries, royalties were lower for know-how licenses than patent licenses; in the electrical, petrole-

changes as compared to bare patent licenses. The small-grain details—how to actually implement a technology, make a product, conduct a process, or integrate a component—are often crucial to actually learning and applying a new invention. Patent licenses accompanied by associated TS/KH information promote deep, robust interaction: the transfer of real *technologies*, and not just patent rights. This type of patent license contributes to the viability of specialist technology firms and so indirectly to a more variegated industry structure. Contracts that include patent rights plus TS/KH make possible a true “market for technologies.”

In the transfer of technological know-how from one firm to another, teamwork is essential. Employees of the patent owner must develop enough trust in the licensee firm to disclose the nitty-gritty technical details required to understand and apply the relevant technology. Sometimes the trust comes from past contacts: the parties might have engaged in prior technology transfers, or someone on one side of the transaction is a former colleague of those on the other side. The licensor has to trust the licensee with sensitive and typically unpatented features of the technology—features that are difficult or impossible to protect with effective intellectual property rights.

When a licensor team believes the licensee can be trusted, the licensor has reason to collect TS/KH information and put it into a form that can be useful to the licensee. This takes effort. According to a well-known metaphor, technological information of this kind is “sticky”: it clings to the people, machines, and organizational routines of the group that created it and use it. So, a licensor must often make investments to “unstick” TS/KH information—pry it out of the context it sticks to, making it moveable to another site (the licensee firm). If the risk of misappropriation is too great, trust may remain in short supply in the licensing relationship. Little of the really essential TS/KH information will actually change hands. With important information stuck in place, and no strong incentive to “unstick” it, much of the potential gain from a technology transfer may go unrealized.

### 1. *TS/KH and the Market for Technology*

Beginning in 1995, economist Ashish Arora began exploring markets for technology. In a definitive early article, *Licensing Tacit Knowledge: Intellectual Property Rights and the Market for Know-How*,<sup>97</sup> Arora showed how the transfer of patent rights promotes the patent licensor’s disclosure of trade secrets and know-how (TS/KH):

[S]imple arms length contracts can accomplish the transfer [of] know-how. The key to the success of arms length contracts is the complementarity between

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um and transportation industries, however, royalty percentages for know-how and patent licenses were almost identical. *Id.* at 64-71 . . . .

<sup>97</sup> See generally Ashish Arora, *Licensing Tacit Knowledge: Intellectual Property Rights and the Market for Know-How*, 4 ECON. INNOVATION NEW TECH. 41 (1995).

know-how and patents. The model explains why patents and know-how are bundled together in licensing contracts. . . . [A] key to the success of the arms-length contracts is the complementarity between know-how and patents: know-how is more valuable when used in conjunction with the codified (patented) components of the technology. This complementarity allows the licensor to use the protection accorded to the codified components of the technology, *i.e.* the patent, to protect himself against opportunistic behaviour by the licensee.<sup>98</sup>

### B. Bundling-Convoy-Hostage Theory

When we recognize that patents are often *bundled* with TS/KH, and that some of the threat value of a patent “pours over” to help protect otherwise vulnerable trade secrets, another rationale for no challenge policies comes into view. When our field of vision widens to embrace the full transactional context, we find reasons to be wary of rules and doctrines that undermine the relational stability of patent-centered deals.

The bundling solution can be seen as a special case—the obverse, really—of the more general “appropriability” theory of David Teece. Teece famously theorized that when formal IP rights fail to pay for an innovator’s R&D costs, complementary assets can sometimes be leveraged to supply supranormal profits that help the innovator recoup its investment.<sup>99</sup> So, for example, a new food product might contain a modified formulation of a well-known natural ingredient; the research costs behind this unpatentable innovation<sup>100</sup> could be recouped if the innovator has a well-known brand, efficient manufacturing facilities, and a large, established distribution network (trucks, warehouses, arrangements with supermarkets, etc.). The pricing edge gained through control of the com-

<sup>98</sup> *Id.* at 41–42 (The tight connection between a patented invention and the TS/KH information that clusters around it is evident not only from the fact that most patent licenses also cover related TS/KH, but also from the record left by legal disputes.); *see, e.g.*, *Eastman Chemical Co. v. AlphaPet Inc.*, Civ. Action Nos. 09–971–LPS–CJB, 11–702–LPS, 2011 WL 7121180, at \*3–\*5 (D. Del. Dec. 29, 2011) (the court consolidated two separate patent infringement suits because both sets of patents were licensed to the same accused infringer, and development of related trade secrets involved common facts: “[T]he development and scope of the parties’ respective . . . trade secrets will likely be relevant to both actions, given that those issues will be closely tied to the ultimate question of whether infringing activity has occurred [with respect to one or more of the licensed patents].”). There are also some cases that attempt to put a separate value on the trade secrets and know-how transferred along with a patent. These cases respect the *Lear* rule by permitting licensee challenges, but reward damages under a restitution theory for the licensee’s use of patent-related trade secrets and know-how. *See Dreyfuss, supra* note 73, at 695–96 n.75 (1986) (citing *Chromalloy Am. Corp. v. Fischmann*, 716 F.2d 683, 685–86 (9th Cir. 1983)); *St. Regis Paper Co. v. Royal Indus.*, 552 F.2d 309, 315 (9th Cir. 1977), *cert. denied*, 434 U.S. 996 (1977) (ordering restitution payments for trade secrets and know-how when a patent is invalidated notwithstanding a contractual no-challenge clause).

<sup>99</sup> *See generally* David J. Teece, *Profiting from Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy*, 15 *RSCH. POL’Y.* 285 (1986).

<sup>100</sup> Unpatentable because it occurs naturally.

plementary assets (brand, manufacturing, and distribution) helps to subsidize the R&D investment.

In hybrid patent-TS/KH licenses, something similar occurs: the formal IP right (patent) helps recoup the value of the hard-to-protect TS/KH information. The patent is a “complementary” asset with respect to the TS/KH information. Just as the value of branding/manufacturing/distribution complements the value of the innovative ingredient in the food industry example, the value of patent rights is a complementary asset with respect to the TS/KH information. Control of the patent, then, can help make up for the lack of effective IP protection for that information.

From a broad perspective, hybrid licensing is just another contractual mechanism protecting one contracting party from being taken advantage of by the other. It prevents “opportunism” to use the term popularized by Oliver Williamson in his transaction cost economics:

Opportunism is a self-interest-seeking assumption. By contrast with simple self-interest seeking . . . opportunistic agents are given to self-interest seeking with guile. Whether economic agents will tell the truth, the whole truth, and nothing but the truth and will reliably self-enforce covenants to behave “responsibly” are therefore problematic.<sup>101</sup>

The proper response for economic agents, according to Williamson, is to design agreements that punish opportunistic behavior. In Williamson’s words, “farsighted parties purposefully create bilateral dependency and support it with contractual safeguards.”<sup>102</sup> One way to fashion “bilateral dependency” is for contracting party *A* to give party *B* a powerful weapon to be used against *A* if *A* acts badly. The practice is exemplified by—and draws its name from—the historical practice of exchanging hostages, often family members, to cement a treaty. Each side can imprison or harm the other’s family member in the event of bad behavior, so both sides adhere to the treaty. Business people duplicate this “self-enforcing” feature in commercial deals by posting a bond, for example, that will be seized by the other party in the event of contract breach.

Several students of patent licensing have argued that hybrid licensing works on the same hostage principle.<sup>103</sup> If a licensee misappropriates TS/KH

<sup>101</sup> Oliver E. Williamson, *Calculativeness, Trust, and Economic Organization*, 36 J. L. & ECON. 453, 458 (1993).

<sup>102</sup> *Id.* at 461.

<sup>103</sup> Arora, *supra* note 97, at 44:

The licensor can withdraw the patent (*i.e.* deny the licensee any right to use the patent) if he is not satisfied with the licensee’s behavior. Here the assumption that know-how is complementary to the patented component of technology is crucial . . . [K]now-how tends to be highly application and context specific. Therefore, the value of the know-how to the licensee will be higher if used together with the patented component of the technology. [The licensee can in turn insist on two separate payments, withholding the second one if the licensor misbehaves.] The mutual “hostage taking” allows a self-enforcing contract in know-how to work, even though no externally enforceable contract exists.

*See also* Zuniga & Guellec, *supra* note 94, at 6:

information, the licensor can withdraw the license, and sue for patent infringement if necessary. In place of a money bond, the licensee makes investments to implement and apply the licensed technology. These investments commit the licensee to a path that (a) depends crucially on access to TS/KH, and (b) leads straight to patent infringement if the underlying patent license terminates. So long as it is in effect, the license exempts the licensee from concerns with infringement. But a licensor that terminates a license leaves the licensee with two bad choices: continue the development project without a license and risk being sued for infringement or drop the project and lose the money that was invested under the assumption that the project was covered by a patent license.

1. *Investments in “Unsticking” Information (von Hippel)*

Legal scholar Peter Lee has written wisely, and well, on the nature of TS/KH information and the difficulties of transferring it.<sup>104</sup> According to Lee,

[P]atent disclosure and codification is often incomplete. Although patents require technical disclosure, some amount of invention-related knowledge necessarily remains tacit and personal to the inventor. As philosopher of science Michael Polanyi observed, “[W]e can know more than we can tell.” Indeed, much “non-codified, disembodied know-how” is not communicated in a patent.<sup>105</sup>

Such tacit knowledge is often essential to making a technology actually work. A design for a new machine is, for example, only the starting point. Someone who has constructed one or more machines according to the design knows what tolerances are required to get it to fit together and work as advertised. Then there are all the subtle and almost intuitive adjustments required to get it to work *well*. This may include hard to specify aspects (e.g., “you turn this knob until the resistance feels just right,” or the like).

There are two types of uncodified knowledge: that which “sticks” to routines, procedures, and interactions with machinery but can be “unstuck” with some effort, and that which is only understood more intuitively, possibly by way of subtle cues communicated through the senses. Often, according to Polanyi, we are not even aware of all the elements of this form of knowledge. We “just do it,” and through repeated action, we develop “a feel for it,” but we may not even know what it is we know. We do not know it “in our minds,” but instead hold the knowledge “in our bones,” as the saying goes.

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Patent licensing plays a central role in technology markets. It frequently constitutes the pillar for knowledge exchange as patents can work as “credible hostages” when non-protected, complementary know-how and services are provided. This [article] aims at providing new evidence on the . . . obstacles companies face when attempting to commercialise patents in markets.

See generally Oliver E. Williamson, *Credible Commitments: Using Hostages to Support Exchange*, 73 AM. ECON. REV. 519 (1983).

<sup>104</sup> See generally Peter Lee, *Innovation and the Firm: A New Synthesis*, 70 STAN. L. REV. 1431 (2018).

<sup>105</sup> *Id.* at 1446 (first quoting MICHAEL POLANYI, *THE TACIT DIMENSION* 4 (1966) (emphasis omitted), and then quoting Jeremy Howells, *Tacit Knowledge, Innovation and Technology Transfer*, 8 TECH. ANALYSIS & STRATEGIC MGMT. 91, 92 (1996)).

Can we somehow get the knowledge out of “our bones” and onto the page? Can it be identified, articulated, and codified, in other words? Polanyi comments: “[W]e *can* know how to cycle and swim without having found out how we do it.”<sup>106</sup> Yet, Polanyi also holds that “[i]t may be possible to find out how we keep our balance on a bicycle or keep afloat when swimming.”<sup>107</sup> The implication is that this finding out will take some effort. And once it is determined that something tacit can be codified, it must be recorded or written down in useful form.

Innovation scholar Eric von Hippel calls these expenditures to dislodge embedded information “investing to unstick”:

[W]hen the costs of [moving problem solving from one site to another] are high, problem-solving activities that draw upon multiple sites of sticky information will sometimes be “task partitioned” into subproblems that each draw on only one such locus . . . [and] efforts will sometimes be directed toward investing in “unsticking” or reducing the stickiness of information held at some sites.<sup>108</sup>

These investments, and other good faith efforts to share technical information, will only be made if they are worthwhile to the licensor. This is mainly a matter of economic self-interest: if there are net gains from synergistically combining skills and expertise from both parties, disclosure will be robust. But it must also be mentioned that sometimes technical experts—scientists and engineers—feel pulled by professional norms that tug against the force of corporate self-interest. There is the law of the contract, which is very likely filled with protective provisions and detailed duties. Then there is the reality on the ground; technical personnel may exceed their strict duty in order to solve an important problem and get the relevant technology working.<sup>109</sup>

There are some common characteristics of successful technology transfer, which we look at below. But it might be best to start with an example of the very common case of transfer *failure*. We can start with a case study, drawn from a 1980’s joint venture between the entertainment conglomerate RCA and office product manufacturer Bell & Howell. The goal of the venture was to de-

<sup>106</sup> Michael Polanyi, *Tacit Knowing: Its Bearing on Some Problems of Philosophy*, 34 REVS. MOD. PHYSICS 601, 602 (1962).

<sup>107</sup> *Id.*

<sup>108</sup> Eric von Hippel, “Sticky Information” and the Locus of Problem Solving: Implications for Innovation, 40 MGMT. SCI. 429, 430 (1994).

<sup>109</sup> This would be an example of “quick trust”: people trusting in others because of their respective social roles rather than direct experiences with one another. So, an employee of a company in a joint venture may trust his or her counterpart based on the role (or mutual roles) of “production engineer,” “electrical engineer,” or the like. See generally Debra Meyerson et al., *Swift Trust and Temporary Groups*, in TRUST IN ORGANIZATIONS: FRONTIERS OF THEORY AND RESEARCH 166 (Roderick M. Kramer & Tom R. Tyler eds., 1996); see also Frens Kroeger et al., *How to Create Trust Quickly: A Comparative Empirical Investigation of the Bases of Swift Trust*, 45 CAMBRIDGE J. ECON. 129, 129 (2021) (describing “having to make a ‘snap decision’ whether to trust [others]. The seminal contribution on this topic (Meyerson et al., 1996 [supra]) outlined this form of trust as relying largely on roles and other ‘imported’ bases of trust rather than on experience of the individuals involved.”).

velop a magnetic tape system capable of recording broadcast content—the videotape. The project failed when engineering mishaps slowed the RCA team, which lost the race to Sony (with its Betamax VCR) and Phillips (another early entrant). According to business scholar Margaret Graham:

[RCA's] Indianapolis [facility] lacked the manufacturing capability in complex and precision assembly that would be required to make [a magnetic tape video recorder]. To meet this objection, the venture group looked for an outside manufacturer. In 1971, they signed an agreement with Bell & Howell to produce the complex [components] at the heart of [the proposed] system. . . .

The Bell & Howell arrangement, required for the precision manufacture of [components], was fraught with difficulty from the start. RCA's attempts to transfer its [experimental] Magtape technology to the engineers at Bell & Howell never succeeded. Bell & Howell fell behind schedule and blamed its lack of progress on what it said were RCA's incomplete, poorly documented, and essentially unworkable designs. [The Bell & Howell] team invented their way out of every problem, but that led to endless engineering changes for Bell & Howell's [manufacturing] process engineers.<sup>110</sup>

And the resulting delay was fatal.

What went wrong in the RCA joint venture was inadequate codification, and not enough joint problem solving.<sup>111</sup> Especially after Bell & Howell's early requests for more information were met with unhelpful responses, the joint team never built up enough of a common language to tackle problems jointly. And RCA's documentation of its design was clearly deficient—a good example of sticky information staying put for lack of adequate investment in “unsticking” it.

In comparison to pathological cases such as RCA-Bell & Howell, healthy, successful technology transfer takes place when the parties learn to trust each other. There is good reason to believe that trust develops over time, and that the more the principals get to know each other, the richer the technology exchange between them.<sup>112</sup> There is a hard-edged realism about this to be sure: where op-

<sup>110</sup> MARGARET B. W. GRAHAM, *RCA AND THE VIDEODISC: THE BUSINESS OF RESEARCH* 132, 149 (1986). On alliance failures, see Seung Ho Park & Michael V. Russo, *When Competition Eclipses Cooperation: An Event History Analysis of Joint Venture Failure*, 42 *MGMT. SCI.* 875, 875–76, 887–88 (1996).

<sup>111</sup> Some argue that a shared goal may be more important than the power relationship between the partners (*i.e.*, big company demanding more disclosure from smaller company). See Javier Marcos Cuevas et al., *Power Symmetry and the Development of Trust in Interdependent Relationships: The Mediating Role of Goal Congruence*, 48 *INDUS. MKTG. MGMT.* 149, 150 (2015).

[I]f goal congruence [*i.e.*, shared sense that successful cooperation is desirable; project-specific “team spirit”] does not develop within the cooperation, then power symmetry will not foster the creation of trusted relationships. Furthermore, we assert that if goal congruence becomes shared among the parties, the relationship may develop into a trusted one even under power asymmetry.

<sup>112</sup> See, *e.g.*, Marco Tortoriello & David Krackhardt, *Activating Cross-Boundary Knowledge: The Role of Simmelian Ties in the Generation of Innovations*, 53 *ACAD. MGMT. J.* 167, 168 (2010) (emphasizes importance of dense inter-company connections, referred to



portunism is possible, it only makes sense to develop trust in small increments. So, it takes time. Copious scholarship backs this up: increased familiarity—repeated interactions,<sup>113</sup> dealing with former colleagues,<sup>114</sup> etc.<sup>115</sup>—is uniformly associated with greater likelihood of alliance formation, licensing deals, and successful outcomes.<sup>116</sup>

as “Simmelian” after the sociologist George Simmel; a “Simmelian tie” is formalized as a situation where *A* and *B* have a long-term, repeated connection to each other inside an organization, and where both *A* and *B* have a similar close connection to person *C* in another organization); dense clusters of these types of triads (*A*, *B* and *C*) predict greater knowledge flows between organizations):

Bridging relationships [*e.g.*, *A* to *C*, and *B* to *C*] embedded in a dense social structure facilitate the formation of common knowledge and shared meanings, reduce frictions due to differences in understanding, and promote the cooperation and coordinated actions that are necessary to integrate and take advantage of diverse sources of knowledge.

See also David T. Robinson & Toby E. Stuart, *Network Effects in the Governance of Strategic Alliances*, 23 J. L. ECON. & ORG. 242, 242 (2007) (finding that “the stock of prior alliances between participants in the biotechnology sector forms a network that serves as a governance mechanism in interfirm transactions”).

<sup>113</sup> Swati Panda et al., *Nature and Evolution of Trust in Business-to-Business Settings: Insights from VC-Entrepreneur Relationships*, 91 INDUS. MKTG. MGMT. 246, 247 (2020):

Trust in B2B relationships emerge[s] when one party has confidence in the other party’s intention to act in the interest of the relationship . . . . Interdisciplinary views on trust suggest that trust plays a decisive role in determining the attitudes and behaviors of both parties by encouraging positive emotions, collaboration, information sharing, and creativity . . . ultimately leading to competitive advantage for both sides . . . . Parties can proactively build trust by signaling commitment, consistency, fairness and justice, and sharing information . . . . In a B2B relationship, contracts are inherently incomplete; thus, relational mechanisms such as trust play a potent role in addressing unforeseeable contingencies and ensuring cooperation . . . .

See also Dan Li et. al., *Friends, Acquaintances, or Strangers? Partner Selection in R&D Alliances*, 51 ACAD. MGMT. J. 315, 315 (2008) (“Data on 1,159 R&D alliances indicate that the more radical an alliance’s innovation goals, the more likely it is that partners are friends [*i.e.*, have had multiple strategic past interactions] rather than strangers.”); Robinson & Stuart, *supra* note 112, at 242 (finding that “the stock of prior alliances between participants in the biotechnology sector forms a network that serves as a governance mechanism in interfirm transactions”).

<sup>114</sup> See Stefan Wagner & Martin C. Goossen, *Knowing Me, Knowing You: Inventor Mobility and the Formation of Technology-Oriented Alliances*, 61 ACAD. MGMT. J. 1, 1 (2018) (“Using data on inventor mobility and alliance formation among 42 global pharmaceutical firms over 16 years, we show that inventor mobility is positively associated with the likelihood of alliance formation in periods following inventor movements.”).

<sup>115</sup> See, *e.g.*, YoungJun Kim & Nicholas S. Vonortas, *Technology Licensing Partners*, 58 J. ECON. AND BUS. 273, 274–75 (2006):

We find strong evidence that two companies will tend to engage in licensing agreements the closer their technological profiles, the closer their market profiles, the more familiar they are with each other through prior such agreements, the higher their prior independent experience with licensing, and the stronger the intellectual property protection in the primary line of business of the licensor. Directly or indirectly, all these factors determine the anticipated costs of licensing a piece of technology, including transaction costs (the costs of negotiating, monitoring, and enforcing contracts) as well as the costs related to technology transfer, learning, and eventual application.

<sup>116</sup> Oliver Williamson, in transaction cost theory, identifies investments that are required to perform a contract with a specific party, or which make the exchange with that party more

### C. *The Inevitability of Leakage*

One feature casts a long shadow over the market for technology. Except in the rarest of cases, information about new technologies always leaks from the inventor/innovator to others in the industry.<sup>117</sup> This happens in all sorts of ways,<sup>118</sup> with employee mobility leading the parade. A classic study claims, on the basis of a limited sample of one hundred technical innovations, that this happens within eighteen months of product introduction, on average.<sup>119</sup> What-

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profitable, but which cannot be recouped if that party reneges on the deal. He calls this “asset specificity.” See OLIVER E. WILLIAMSON, *THE ECONOMIC INSTITUTIONS OF CAPITALISM: FIRMS, MARKETS, RELATIONAL CONTRACTING* 30, 54–56 (1985). There are many case studies documenting the existence of these party-specific investments. See, e.g., Peter G. Klein & Howard A. Shelanski, *Empirical Research in Transaction Cost Economics: A Review and Assessment*, 11 J. L., ECON., & ORG. 335, 342, 346 (1995); Jeffrey H. Dyer & Nile W. Hatch, *Relation-Specific Capabilities and Barriers to Knowledge Transfers: Creating Advantage Through Network Relationships*, 27 STRAT. MGMT. J. 701, 716 (2006) (empirical study of auto component supply relationships; “[S]ome firm capabilities are relation-specific and are not easily transferable to other settings.”).

<sup>117</sup> By leakage here I mean the passing of information outside the “deal circle,” which is composed of the originating firm and that firm’s licensing partner. Transfer of information within the relationship (subject to contractual safeguards) is of course essential to the success of the deal. But leakage beyond the licensing partners is different. See Siah Hwee Ang, *Competitive Intensity and Collaboration: Impact on Firm Growth Across Technological Environments*, 29 STRAT. MGMT. J. 1057, 1058–59 (2008) (because “[a]ccess to a partner’s complementary resources allows . . . learn[ing] and accelerate[s] speed to market,” licensing necessarily involves information transfer; but study data show that “[c]ollaborating with potentially weaker firms also risks diffusing the distinctive resources that have helped the firm establish its advantageous position in the first place. Thus, firms that face low levels of competitive intensity may hold off collaborating as potential gains may be offset by the costs and risks involved.”).

<sup>118</sup> And often benefits society as well. The well-known “positive spillovers” from R&D activity in fact provide much of the rationale for singling out IP-protected works as an appropriate subject of property rights. On spillovers, see, e.g., Wesley M. Cohen et al., *R&D Spillovers, Patents and the Incentives to Innovate in Japan and the United States*, 31 RSCH. POL’Y 1349, 1349–50 (2002); Robert C. Allen, *Collective Invention*, 4 J. ECON. BEHAV. & ORG. 1, 1 (1983). There are also, ultimately, benefits to an innovative firm from participating in a high-mutual-spillover industry. Aside from reciprocal mutual spillovers (you benefit from my research, I benefit from yours), there are also direct benefits from stimulating an industry-wide research program that brings attention to and promotes the market for one’s own innovations. See Hongyan Yang et al., *Learning from What Others Have Learned from You: The Effects of Knowledge Spillovers on Originating Firms*, 53 ACAD. MGMT. J. 371, 371 (2010) (using as an example Kodak’s development of Organic Light-Emitting Diodes (OLED) in 1985: “During the next 15 years, over 30 firms, including Sony and Xerox, exploited Kodak’s efforts by combining [Kodak’s] core discovery with other complementary knowledge to generate additional innovations. Rather than depleting innovative opportunities and limiting Kodak’s ability to advance OLED technology, the innovative efforts of these recipient firms seem to have increased Kodak’s opportunities for innovation and enhanced its subsequent innovativeness.”).

<sup>119</sup> Edwin Mansfield, *How Rapidly Does New Industrial Technology Leak Out?*, 34 J. INDUS. ECON. 217, 217 (1985) (survey of 100 innovating firms: “[I]nformation concerning development decisions is generally in the hands of rivals within about 12 to 18 months, on the av-

ever the actual figure, disclosure from firm A to firm B undoubtedly increases the risk that the specific information will leak out, especially when firm B is large (has more employees) compared to A.<sup>120</sup> The greater the number of employees that know the information, the more likely one or more will leave to join a new employer and inadvertently disclose the information to professional colleagues, or the like.<sup>121</sup> However it happens, loss of control of essential unpatented information is the single greatest threat for many licensors of innovative technology.<sup>122</sup>

To summarize: unpatented TS/KH information is both vital and vulnerable. Most patent licenses contemplate that TS/KH information will be bundled with the licensed patent rights. Convincing theory says this is no accident. In real technology transfer, patent rights do more than simply shield the licensee from legal liability. They open a communication channel between the patent owning firm and the licensee firm. Through this channel flows the TS/KH information that is so often essential to the success of the mutual project. The formal legal relation established by a patent license acts like the trusses and beams of a tunnel or passageway. It establishes a sturdy conduit, an open passageway between the two firms.

#### *D. Fitting Licensing into the New Synthesis in the Economics of Patents*

Listing the virtues of patent licensing conforms to a more general trend in patent economics: the turn toward patent-related transactions, firm specialization, and diverse industry structures.

The economic study of patents has undergone a gradual but thorough change over the past twenty-five years. As late as the 1990s, most economists understood patents as state-backed monopolies. Theoretical studies mostly featured a tradeoff model: losses from monopoly pricing were balanced against the societal benefits of new technologies. The lure of monopoly power called forth

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erage, and information concerning the detailed nature and operation of a new product or process generally leaks out within about a year.”).

<sup>120</sup> THOMAS J. ALLEN, *MANAGING THE FLOW OF TECHNOLOGY* 40 (1977) (“Information is transferred in technology primarily through personal contact.”).

<sup>121</sup> *See, e.g., id.* at 43:

[T]he best way to transfer technical information is to move a human carrier. The high turnover among engineers results in a heavy migration from organization to organization [*i.e.*, 12.5 percent average turnover per year] and is therefore a very effective mechanism for disseminating technology throughout an industry and often to other industries. . . . So the mere existence of high turnover among R&D personnel vitiates much of the protectionism accorded proprietary information.

<sup>122</sup> Venture capitalists have been identified as one vector through which leakage occurs. *See* Emily Cox Pahnke et al., *Exposed: Venture Capital, Competitor Ties, and Entrepreneurial Innovation*, 58 *ACAD. MGMT. J.* 1334, 1335 (2015) (“[O]ur theory and results highlight important drawbacks of connectedness, and demonstrate that certain ties have the potential to make new firms even more vulnerable—an issue that we refer to as ‘competitive leakage.’”).

inventive effort, but the benefits of new inventions came at the expense of above marginal-cost pricing.

Call this the Incentive/Tradeoff (I/T) theory.<sup>123</sup> I/T theory deals in highly aggregated terms: the costs and benefits of patents are modeled and discussed at the society-wide level. The total value of all new inventions called forth by patents is weighed against the total cost of supra-marginal pricing across all markets in an economy.

Roughly twenty-five years ago something new began to take shape in economic writing on patents. The same trends that swept through economics as a whole, where classical microeconomics was being modified by a newfound interest in the various structural elements that together determine aggregate economic activity (firms, transactions, property rights, and other “institutions”), also visited the literature on patent economics. I/T theory was refined by inquiries into two new topics: (1) how patents affect the *locus* of inventive activity and not just its aggregate level, and (2) transactional solutions to problems of dispersed patent ownership. One frequent finding in these newer studies is that patents (and IP rights generally) promote firm specialization, and in this way patents affect not just aggregate incentives but industry structure as well. For this reason, we might call the new approach the Specialization/Industry Structure (S/IS) Theory.

The basic insight from this literature is that IP rights can actually affect the location of firm boundaries.<sup>124</sup> The key to this new understanding of IP is to see it not primarily as something that affects overall incentive levels, but instead as an instrument that affects transactions and, hence, the organization of production. Advocates of this view see IP as a way for small, specialized firms to protect against opportunism when contracting with larger firms. IP makes it easier for specialized firms to sell technology and know-how via arm’s-length contracts, which permits specialized producers to exist as independent firms. IP rights can then be said to affect industry structure: without these rights, special-

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<sup>123</sup> See Robert P. Merges, *Economics of Intellectual Property Law*, in 2 THE OXFORD HANDBOOK OF LAW AND ECONOMICS: PRIVATE AND COMMERCIAL LAW 200, 207 (Francesco Parisi ed., 2017) (reviewing the Incentive/Tradeoff Model and its role in patent scholarship).

<sup>124</sup> See Teece, *supra* note 99 (an early contribution); see also Robert P. Merges, *A Comparative Look at Intellectual Property Rights and the Software Industry*, in THE INTERNATIONAL COMPUTER SOFTWARE INDUSTRY: A COMPARATIVE STUDY OF INDUSTRY EVOLUTION AND STRUCTURE 272, 282 (David C. Mowery ed., 1996) (“The Japanese software industry teaches some valuable lessons about the role of property rights in overcoming transaction costs. Without the security of a property right granted by the government, software suppliers in Japan would be loath to leave the protective contractual sphere they shared with their captive customer/patrons [“keiretsu”]. But with such a right, enforceable outside the context of an individual contract (that is, a right that is “good against the world”), these firms are free to sell to other customers.”); Robert P. Merges, *A Transactional View of Property Rights*, 20 BERKELEY TECH. L.J. 1477, 1485 (2005). See generally JONATHAN M. BARNETT, INNOVATORS, FIRMS, AND MARKETS: THE ORGANIZATIONAL LOGIC OF INTELLECTUAL PROPERTY (2021) (an excellent overview of the literature that has developed around these ideas, with many important and original contributions of its own).

ized knowledge subject to opportunistic copying would have to be produced within large, vertically integrated firms. This in turn would mean a loss of the “high powered incentives” (to use Oliver Williamson’s term)<sup>125</sup> available to independent firms who sell their output via contracts. The upshot is that IP at the margin may enable more small and independent firms to remain viable even in industries where multicomponent products are assembled and sold by large, vertically integrated firms.<sup>126</sup>

*E. Why it Might Make Sense to Bargain Away the Right to Challenge a Licensed Patent*

Imagine you were part of a company called GrowthCo that badly wanted to grow its business, and you had identified a new technology that could help you. Perhaps it is a new feature or component that will differentiate your products from your competitors, a way to lower production costs, or a new capability that will open new product markets. Whatever the technology, just imagine you want it badly.

You find out about a recently-formed company, Small+Sharp, formed by a close-knit team of the specialists widely considered to be among the best practitioners of the technology you want. Your problem: gaining access to the Small+Sharp technology as soon as possible and starting to integrate it into GrowthCo operations. Knowing Small+Sharp only by reputation, and with an unproven technology, it is too early to think about an outright acquisition of Small+Sharp. Also, the founders might well either not sell at all or name an acquisition price far higher than GrowthCo is willing to pay at this early stage. So some form of joint venture or Small+Sharp-to-GrowthCo patent license seems like the best way to proceed. Certainly Small+Sharp has plenty to license; its patent portfolio, though only ten or twelve patents, is thought to be the most valuable of any company working in the new field.

Small+Sharp is worried that it will pass along its essential technical information to GrowthCo in the course of a joint venture. In the worst case, GrowthCo learns all it needs to know, somehow gets around Small+Sharp’s patents, and leaves Small+Sharp to wither and die. From experience, you and your GrowthCo colleagues know that it is essential to assure the Small+Sharp team that you have no intention of letting this happen. You also know it is essential to begin to build trust between the two companies. If the joint venture is to succeed, you will have to assuage Small+Sharp’s fears about being taken advantage of and giving away their “crown jewels.”

The next Section further explores how *Lear* affects patent owner-licensee bargaining.

<sup>125</sup> See WILLIAMSON, *supra* note 116, at 141–44.

<sup>126</sup> See Ashish Arora & Robert P. Merges, *Specialized Supply Firms, Property Rights and Firm Boundaries*, 13 *INDUS. & CORP. CHANGE* 451, 451 (2004).

*1. Contract Bargaining and Mandatory Rules: Lost Surplus Value*

In the absence of a mandatory rule, the initial allocation of the patent challenge right is fairly trivial. If the licensee has the right to challenge by default, but is free to bargain it away, it will wind up in the hands of a higher-valuing patent owner as part of the contract negotiation. Default contract rights are subject to this sort of Coasian transfer all the time. Things get more complicated when an inalienable challenge right is assigned by law to the licensee. Inalienability frustrates the possibility of a win-win transfer of the challenge right to the licensor.

Speaking quite generally, the law likes to enforce bilateral contracts unless something in them significantly affects third parties. Licensing and assignment contracts centered on patents by definition involve rights that affect third parties. A patent owner's contractual partners are usually, at least in part, paying for the market power or exclusionary effect conferred by the patent. The license benefits the licensee, presumably, in part because the licensee steps in whole or in part into the shoes of the patent owner. And these shoes can be powerful shoes, conferring the right to kick out new entrants or gain a head start in the race for a new technology.

Pro-challenge cases such as *Lear* in effect make the licensee's challenge right inalienable, or mandatory.<sup>127</sup> A definitive treatment of mandatory rules defends them, but only when a bilateral contract so harms parties outside the contract that it warrants intervening in contractual freedom.<sup>128</sup> Pro-challenge cases from the *Lear* era unquestionably saw patent licenses as bilateral agreements that had very significant, and highly negative, social consequences: big third-party costs, in other words. These are just the circumstances when mandatory rules are most readily justified.<sup>129</sup>

But—my thesis in a nutshell—times have changed. Patent challenges are cheap(ish) and plentiful. We now expect any valuable patent to face a long list of potential challengers. Knocking one challenger (the assignor/licensee) off the list no longer saddles the public with such a heavy burden. It may not affect the public at all. But it very well might undermine trust in joint technology development projects, as we have seen in earlier sections of this Article.

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<sup>127</sup> See Martin J. Adelman & Friedrich K. Juenger, *Patent-Antitrust: Patent Dynamics and Field-of-Use Licensing*, 50 N.Y.U. L. REV. 273, 293 (1975) (“In abolishing the longstanding licensee estoppel doctrine, the Court [in *Lear*] wrote the right to claim invalidity into every patent license. Previously, licensees could bargain for this right, but the patentee was entitled to exact a quid pro quo for granting it.”).

<sup>128</sup> Eyal Zamir & Ian Ayres, *A Theory of Mandatory Rules: Typology, Policy, and Design*, 99 TEX. L. REV. 283, 287 (2020) (“Mandatory rules . . . protect people outside . . . the contract . . . [which are also called] externality concerns.”).

<sup>129</sup> “The more the interests of the parties diverge from the interests of society, the more likely the parties are to contract for socially deleterious provisions.” *Id.* at 291. And of course, the more justifiable is a mandatory rule, to protect society (*i.e.*, third parties) from the deleterious spillovers that emanate from the contract.

Another downside to the current mandatory pro-challenge rules is that they may also limit efficiency in patent-related contracts. Because the law prohibits contracting over the challenge right, patent owners and their business partners may be unable to realize the full potential value of their deal. To see why, it is worth dwelling for a few moments on the overall bargaining situation of patent owner and business partner.<sup>130</sup>

## 2. *The Patent Challenge Right in Contract Bargaining*

We start with the observation that contracts create and allocate all sorts of rights as between the parties. So, in theory, a licensee could compensate for the inability to bargain over patent challenge rights. Contract terms could be added, or existing terms rebalanced, to offset the loss the patent owner suffers from not being able to bargain for a no-challenge clause. The parties could, for example, raise the royalty rate on the licensed patent and/or TS/KH information. The higher income from the higher rate would compensate for the added risk of patent invalidity accompanying the licensee's challenge right.<sup>131</sup> Of course, such a "value adjustment" can be made by varying all sorts of contract clauses in favor of the patent owner. The many terms in a contract can be manipulated so as to replace what the patent owner loses from not being able to negate a licensee challenge.

Even so, the inability to contract for no patent challenges creates its own unique set of harms. This is so because, quite often, negating the challenge right has greater value for the patent owner than possessing the right has for the licensee. When the licensee firm is much larger than the licensor, when the license or joint venture represents a bigger share of revenue for the licensor than the licensee, and when the licensor has bundled TS/KH information with the patent rights (particularly when the bulk of that information is delivered in the very early months or years of the license term), then the parties' inability to bargain over the challenge right leads to straightforward economic waste. The parties (and society in general) lose out on the bargaining surplus that would result from the transfer of the right from the licensee to the licensor. The patent owner goes without a right it values and is willing to pay for, and the licensee loses out on the value it would have received (via contract term adjustments) from the licensor in compensation for the right.<sup>132</sup> This foregone surplus repre-

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<sup>130</sup> In addition to efficiency arguments, there are more general utilitarian arguments in favor of inalienability as well. See, e.g., Arthur Kuflik, *The Utilitarian Logic of Inalienable Rights*, 97 ETHICS 75, 75 (1986).

<sup>131</sup> An example, perhaps pedantic: The parties' first-best choice of contract terms includes (1) a 5 percent royalty payable from the licensee to the licensor, and (2) a no-challenge provision, barring the licensee from challenging the validity of the licensed patent. The rule barring no-challenge clauses prevents agreement on (2), so to compensate, the parties raise the royalty rate to 5.15 percent.

<sup>132</sup> Under some circumstances it might be best to require negotiation of explicit no-challenge clauses rather than adopting an extra-contractual doctrine such as licensee estoppel. This

sents a significant inefficiency.<sup>133</sup> In general, the greater the degree of bargaining overlap between the two parties, the greater the lost value when a bargain fails. And under a mandatory rule, by design, the hoped-for bargain fails every time.

Graphically, the situation looks like this:

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amounts to a proposal to assign the patent challenge right to a licensee by default, and to require an explicit transfer to move the right from the licensee to the licensor.

<sup>133</sup> See, e.g., Bradley J. Larsen, *The Efficiency of Real-World Bargaining: Evidence from Wholesale Used-Auto Auctions*, 88 REV. ECON. STUD. 851, 851 (2020) (“Quantitatively, findings indicate that over one-half of failed negotiations are cases where gains from trade exist, leading [to] an efficiency loss of 12–23% of the available gains from trade.”) Inalienability rules lock in these efficiency losses; no change in market conditions will reduce inefficiency as long as an entitlement cannot be exchanged. This makes patent licensing what is known theoretically as an “incomplete market.” See generally Kenneth J. Arrow & Gerard Debreu, *Existence of an Equilibrium for a Competitive Economy*, 22 ECONOMETRICA 265 (1954). For an explanation of one patent-related rule explainable in terms of bargaining breakdown, see Merges, *supra* note 44, at 79 (“A radical—as opposed to ‘ordinary’—improver builds on a pioneer’s contribution, but in a very significant way: The improvement is the source of very high profits, as opposed to the pioneer’s substantial but much lower profits. In a groping and intuitive way, courts have recognized that while the cooperative surplus may well be high in these cases, bargains may also be difficult to achieve. Courts have seen that if a socially beneficial transaction is to take place between the pioneer and the improver, they must intervene (or at least pose the threat of intervention) [through one or more legal devices, including the doctrine known as the reverse doctrine of equivalents].”).



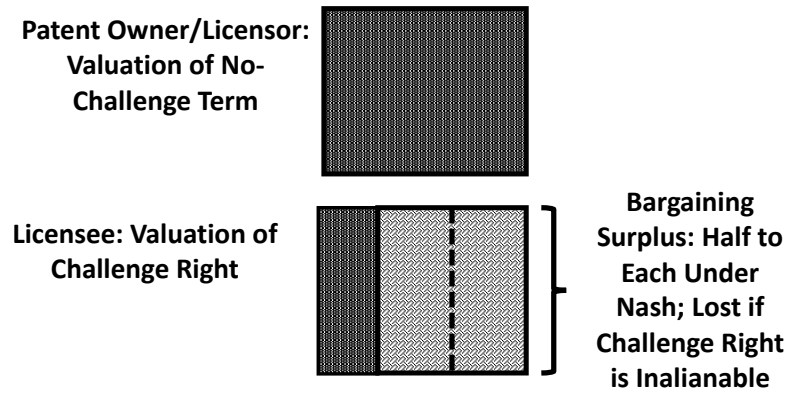


FIGURE 1: BARGAINING SURPLUS WHEN CONTRACTING OVER THE CHALLENGE RIGHT

We observed earlier that most contract negotiations involve multiple issues. Can the lost bargaining surplus shown here be made up in bargaining over other contract terms? Could the aggregate value of the contract, after all negotiations, approximate what it would have been if the challenge right were transferable? A general idea of the shape of the problem is represented in this illustration:

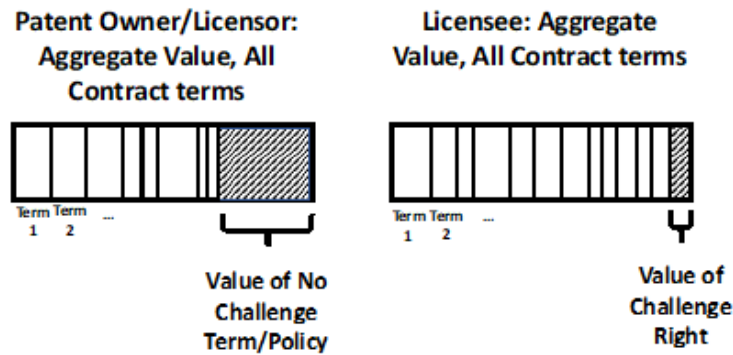


FIGURE 2: AGGREGATE CONTRACT VALUES, INCLUDING THE CHALLENGE RIGHT

It might seem that with so many terms to mix and match, the same aggregate value could be achieved with all sorts of combinations. So excluding the challenge clause from consideration would, in the end, be unimportant. But the analysis here rests on bargaining surplus. It takes more than multiple terms to

create bargaining surplus: it takes *differential valuation* of those terms as well. So, the question of whether the parties could engineer a contract under a mandatory patent challenge regime that leaves them as well off as the prohibited (inalienable challenge right) contract depends on finding other terms where the parties' valuation differs widely. If there are few such terms, or if it takes the parties a lot of extra time and effort to identify them, the inalienable patent challenge rule will stand accused, rightfully, of crimes against efficiency.

### 3. *The Social Cost of Licensee No-Challenge Contracts*

We have been speaking so far of the private bargaining dynamic surrounding the challenge right. Time now to talk about society's interest in the matter. There are two potential levels of social cost associated with a patent licensee that chooses to eschew the challenge right. Cases like *Lear* suggest that licensees are not "just another" patent challenger, but instead an *especially effective* challenger. This theme is prominent in *Lear v. Adkins*<sup>134</sup> in which the Supreme Court rejected the argument that a patent owner had equity on its side in fighting off a validity challenge by a patent licensee. The Court said:

Surely the equities of the licensor do not weigh very heavily when they are balanced against the important public interest in permitting full and free competition in the use of ideas which are in reality a part of the public domain. . . . If they are muzzled, the public may continually be required to pay tribute to would-be monopolists without need or justification.<sup>135</sup>

The Court does not elaborate on the statement in *Lear* that licensees are especially well suited to challenge patents, but it is likely the Justices were aware of the high cost of patent litigation. Thus, the statement in *Lear* can reasonably be read as a comment on the *net benefits* of patent challenges—the payoffs to the challenger, net of its costs. So, it was the combination of the saved royalty payments (big benefit) and litigation costs (which were high) that place the licensee in a special position to challenge the patent. Licensee estoppel cases from the *Lear* era often seem animated by the fact that there were few challenges overall in those days. If there are, for example, only two or three firms that compete in a certain technology, a no-challenge license agreement with one of the three reduces the pool of challengers by 33 percent, a nontrivial reduction. This was a legitimate point at the time, but as we have seen it is no longer true. And perhaps, as the Court says in *Lear*, the challenger knocked out of the pool is the one with the greatest probability of bringing a challenge and invalidating the patent. Call the licensee under this scenario the "unique challenger."<sup>136</sup>

<sup>134</sup> *Lear, Inc. v. Adkins*, 395 U.S. 653 (1969).

<sup>135</sup> *Id.* at 670–71 (emphasis added).

<sup>136</sup> The idea of the licensee as a uniquely effective challenger lives on, long after the *Lear* decision. See Luke Ali Budiardjo, Note, *The Effect of Arbitration Agreements on the America Invents Act's Inter Partes Review Procedure*, 118 COLUM. L. REV. 83, 87 (2018) (footnotes omitted) (emphasis added):

Another way the licensee could be in a unique position is if it had access to “inside information” regarding the validity of the patent.<sup>137</sup> Perhaps there is a prior art reference that the licensee discovers, a reference that could invalidate the patent. Perhaps the patent owner engaged in some questionable “strategy” during prosecution of the patent—something that a licensee might discover from being in close privity with the patent owner. A discovery like this might give a licensee an opportunity to defeat the patent by arguing that it was obtained through inequitable conduct.

Although these scenarios are conceivable, they do not seem likely. The licensee’s ample opportunity to analyze most dimensions of validity before signing the license<sup>138</sup> renders it unlikely that a challenge brought well into the term of the license agreement is the result of a surprise finding of some ground for invalidity.<sup>139</sup> Likewise, the details of patent prosecution are irrelevant to the re-

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The possibility that the strong national policy favoring enforcement of arbitration agreements will apply to the new, adjudicatory post-issuance proceedings before the PTO may enable patent owners to dampen the use of these proceedings by forcing licensees to waive their rights to access these proceedings through arbitration agreements. *Licensees are typically the parties with the most knowledge, capability, and financial motivation to challenge weak patents.* If arbitration agreements are allowed to operate as waivers of a licensee’s rights to access these new post-issuance proceedings, the statutory structure envisioned by the AIA (under which interested parties call the PTO’s attention to weak patents and the evidence that could be used to invalidate them) may be prevented from reaching its full effectiveness.

<sup>137</sup> There is a hint of this thought in the dissent by Justices Douglas and Black in the *Automatic Radio* (package licensing) case. See *Automatic Radio Mfg. Co. v. Hazeltine Rsch., Inc.*, 339 U.S. 827, 840 (1950) (Douglas, J., dissenting), *overruled in part by Lear, Inc. v. Adkins*, 395 U.S. 653 (1969) (abrogating licensee estoppel, but not in the context of package licenses) (emphasis added):

*One who wants the use of one patent may have to take hundreds. The whole package may contain many patents that have been foisted on the public. No other person than the licensee will be interested enough to challenge them. He alone will be apt to see and understand the basis of their illegality.*

*The licensee protects the public interest in exposing invalid or expired patents and freeing the public of their toll. He should be allowed that privilege. He would be allowed it were the public interest considered the dominant one. Ridding the public of stale or specious patents is one way of serving the end of the progress of science.*

<sup>138</sup> That is, pre-licensing due diligence. See Robert Sleeper, *When Sippy-Cups Go Bad: Making Sense of Hakim v. Cannon Avent*, 20 SYRACUSE SCI. & TECH. L. REP., 1, 45–46 (2009) (mentioning “[d]ue diligence exercises during patent licensing negotiations”; article title cites *Hakim v. Cannon Avent Grp., PLC*, 479 F.3d 1313 (Fed. Cir. 2007) (cannot resurrect claim scope surrendered in an earlier continuation filing)).

<sup>139</sup> By analogy once again with real property cases, actual pre-contract inspection of validity is not essential: it is the ample *opportunity* to inspect that counts. Consider a case that refuses to entertain an argument of bad title from a sublessee looking to stop making rent payments to the lessee/sublessor, *Tilyou v. Reynolds*, 15 N.E. 534, 535 (N.Y. 1888).

By the terms of his own lease he had not only constructive, but direct notice of the provisions of the plaintiff’s lease, an opportunity to ascertain the powers of the [sublessor’s lessor] who granted it, and neither concealment nor fraud is alleged against the plaintiff. It has been laid down as a rule that a purchaser must be wise in time; that a lessee is a purchaser within the rule and is equally bound to look into the facts connected with the subject of the lease, as a purchaser is to look into the matters connected with his purchase.

al business of the licensing arrangement, which (in the cases we are interested in) is to foster cooperation and mutual effort in developing a new technology.

Too, it must be admitted that the insider knowledge rationale has a darker side. To allow a licensee to leverage information gained inside a negotiated business relationship is to potentially reward strategic opportunism. Perhaps worse, if rational parties account for this potential opportunism they might engage in less information exchange in the first place. It is hard to estimate how much might have been gained from deeper engagement, and thus what is lost due to pro-patent challenge rules that might undermine cooperation in licensing and technology exchange relationships.

With this in mind, we might agree with the conventional point—that insider challenges are distinct—but turn it on its head. We might say they are exceptional because they involve *costs* not associated with the average challenge. The cost of undermining contractual stability is evident, while the benefits are more speculative. With this in mind, we might say that at best an insider challenge is on balance no better for society than an average challenge, which sends us back to the main point of this whole exercise: now that the challenge base rate has increased dramatically post-AIA, there is no compelling reason to preserve insider challenges. Whatever unique patent-defeating potential they might have, their net benefit is not convincingly greater than the average patent challenge. The AIA has undermined the traditional case for mandatory business partner right-to-challenge rules.

#### 4. *Business Partners as Non-Unique Challengers*

The other possibility, not considered by the Court in *Lear*, is that the licensee is just another “marginal challenger,” no more or less likely to invalidate the patent than any other challenger. If the licensee is interchangeable with other challengers, the social cost of a no-challenge rule or term is just the cost of one fewer potential challenger. There is no *special loss*, no irreplaceable loss, when a licensee opts not to challenge. It is just one lost challenge in the overall calculus.<sup>140</sup>

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<sup>140</sup> We are speaking here only of the costs and benefits of the patent challenge process. Much of the foregoing discussion emphasizes disclosure incentives, hostage-convoys contracts for patents and know-how, and trust building. A pro-challenge policy for licensees raises the costs of transferring patent-related TS/KH information. This represents a unique source of social *loss* as a result of no-challenge terms and policies. When these unique losses are added to the fact that the licensee is simply a marginal patent challenger, with no greater chance to invalidate the patent than anyone else, the balance tips further in favor of free contracting over the patent challenge right.

Figure 3 illustrates the point, with the dotted spike in the graph representing the case of the licensee as unique challenger:

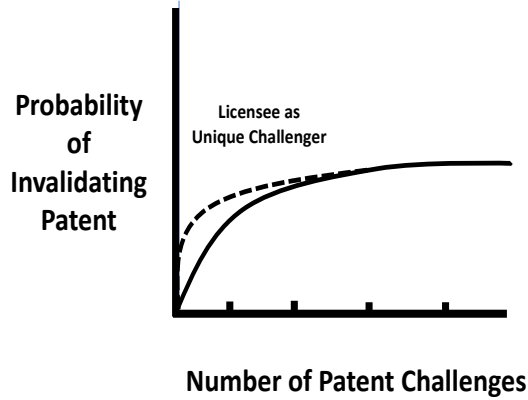


FIGURE 3: CHANCES OF PATENT INVALIDITY, BY NUMBER OF CHALLENGES

As mentioned, the idea that a licensee is uniquely likely to invalidate the patent came in the form of a declaration by the Supreme Court. There is no compelling data to support it. But even if it were true, by virtue of the economics of patent challenges circa 1969, it is very likely not true now. If a licensee is just another marginal challenger, the pro-challenge policy of *Lear* and kindred cases has even less to recommend it than in the past. The diagram below illustrates the point:

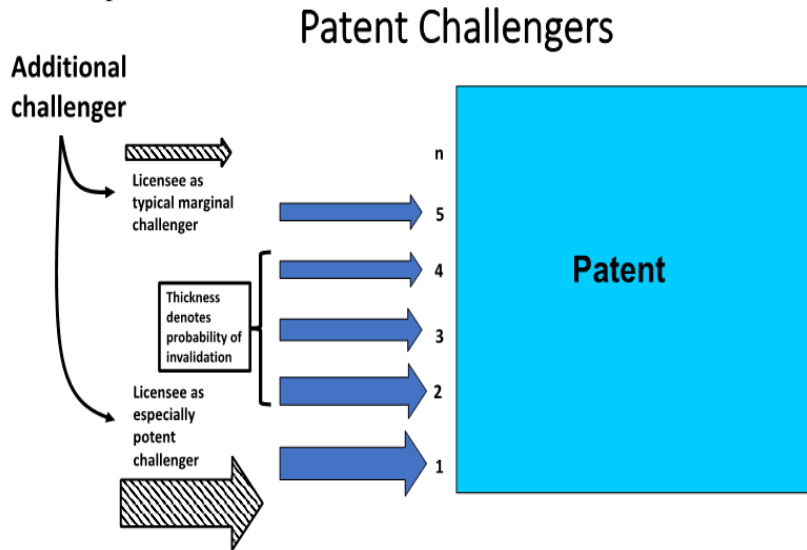


FIGURE 4: LICENSEE: UNIQUE VS. TYPICAL MARGINAL CHALLENGER

We know much more about incentives to challenge patents now, post-AIA, than the Court (or anyone) knew in the 1960s. There is no data showing patent

licensees as frequent challengers to patents under post-AIA procedures. If the “special incentive” story from the *Lear* era were true, we would see licensees flocking to file IPRs. But as far as we can tell, we do not see that at all. To be sure, a few licensees have sought to pursue IPRs against their licensors, arguing that a choice of law or forum clause should not foreclose filing an IPR in the PTAB.<sup>141</sup> And while these licensees freely invoke the spirit of *Lear*, there just are not very many of them to judge by reported cases. More licensees may file challenges in the future, to be sure, though the Federal Circuit case law to date makes this unlikely. That court has taken the quite sensible position that exclusive choice of law or forum clauses should preclude the filing of an IPR. Though some take the field to protest these cases<sup>142</sup>—rallying to the tattered banner of *Lear*—the thrust of this Article would put an end to their campaign at once. The Federal Circuit is right to permit choice of law or forum clauses to foreclose PTAB actions. This should be just the first step in opening up the patent challenge right to direct negotiations.

A final point about licensees and IPRs of relevance to an earlier argument in this Article: there are a handful of reported cases where licensees step forward to *defend* the licensed patent from an external charge of invalidity. The exclusive licensees in these cases argue that they, rather than their patent licensors, are best positioned to defend the patent from an invalidity challenge.<sup>143</sup>

<sup>141</sup> *Kannuu Pty. Ltd. v. Samsung Elecs. Co., Ltd.*, 15 F.4th 1101, 1109 (Fed. Cir. 2021) (choice of law and forum term in nondisclosure agreement does not foreclose filing of IPR petition); Dennis Crouch, *Avoiding IPR via Contract*, PATENTLY-O BLOG (Oct. 7, 2021), <https://patentlyo.com/patent/2021/10/avoiding-ipr-contract.html> [<https://perma.cc/HDL5-5V6N>] (discussing *Kannuu Pty. Ltd.*); *Dodocase VR, Inc. v. MerchSource, LLC*, 767 F. App'x 930, 935 (Fed. Cir. 2019) (non-precedential) (footnote omitted):

[In the earlier case of *Texas Instruments Inc. v. Tessera, Inc.*, 231 F.3d 1325, 1331–32 (Fed. Cir. 2000)] we found that the forum selection clause at issue, which used the language “arise from, under, out of or in connection with this Agreement,” encompassed ITC proceedings initiated after the license agreement was executed. Here [in this case, *Dodocase*], the district court did not err in concluding that the language of the forum selection clause of the [Master License Agreement], which used similar language, “arising out of or under this Agreement,” encompassed PTAB proceedings.

We therefore affirm the district court’s holding on the first preliminary injunction requirement that *Dodocase* was likely to succeed on the merits of its claim that *MerchSource* violated the forum selection clause of the MLA by filing the PTAB petitions.

<sup>142</sup> Scott G. Greene, *The Return of the King: Rethinking Lear, Medimmune, and the Effects of Licensee Estoppel in the Context of AIA Post-Grant Procedures*, 71 N.Y.U. ANN. SURV. AM. L. 81, 83 (2015) (proposing that no-challenge clauses be enforceable with respect to district court litigation, but not enforceable against validity challenges at the PTAB).

<sup>143</sup> See *Real Party in Interest Fluidigm Corporation’s Mandatory Notices Under 37 C.F.R. § 42.8*, *Bio-Rad Laboratories, Inc. v. Fluidigm Corp.*, IPR2015-00009 (P.T.A.B. Oct. 23, 2014); see also *Renewed Motion to Withdraw*, *Motorola Mobility LLC v. Michael Arnouse*, IPR2013-00010 (P.T.A.B. Apr. 19, 2013) (motion of law firm to withdraw; representation of patent owner irrelevant because exclusive licensee is the real party in interest in the IPR). Cf. *Macom Tech. Sols. Holdings, Inc. v. Infineon Technologies AG*, No. 2:16-cv-02859-CAS (PLAx), 2017 WL 3298670, at \*1, \*4 (C.D. Cal. Aug. 2, 2017), injunction modified, 881 F.3d 1323 (Fed. Cir. 2018) (patent assignment from plaintiff *Macom* to defendant *Infineon*

The cases are about whether such a licensee has standing to defend the challenged patent, under IPR rules relating to “real parties in interest.”<sup>144</sup> But the point here is not about standing.<sup>145</sup> Referring to the earlier discussion in Section II.E.1, these licensees would appear to be prime beneficiaries of a rule that (1) initially assigns the challenge right to the licensee, but (2) permits allocation of the challenge right back to the licensor (i.e., legalizes licenses that include a binding “no licensee challenge” clause). Any licensee whose fortunes are tied to defending patent validity has little use for the right to challenge a patent. Such a licensee might get something worthwhile in exchange for that right.

### III. CONCLUSION: IT SHOULD BE LEGAL TO RESTRICT VALIDITY CHALLENGES IN PATENT LICENSES AND ASSIGNMENTS

There are reasons beyond the new AIA to look into the value of private ordering based on patents. Part II above described new research that has expanded our understanding of how patents influence economic activity. In particular, the newer theorists recognize a distinct *transactional* role for patents. In the new understanding, patents are more than simply blunt incentives aimed at inventors. They are strategic assets around which innovative entrepreneurs (and those that finance them) establish and build a new enterprise. Critically, newer theories show that patents can affect not just the *volume* of invention but its *locus*: patents encourage specialization and the viability of smaller component suppliers in industries with complex supply chains. In other situations, large patent portfolios also facilitate various big-company strategies such as cross-

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included license back to Macom for exclusive rights to one very specific embodiment of the claimed invention; in a license breach suit by Macom, alleging that Infineon had begun selling products that fell within assignor-licensee Macom’s exclusive field of use, court rejects defendant Infineon’s counterclaim for patent invalidity under the rule of assignor estoppel). *Macom* arguably fits the pattern of a licensee stepping forward to defend rather than attack patent validity. But then again, Macom was both the assignor and a licensee under the patents at issue, so stood in an unusual posture compared to a more typical licensee.

<sup>144</sup> 35 U.S.C. § 312(a)(2) (IPR request invalid unless it “identifies all real parties in interest” to the filed IPR). The real party in interest requirement is in place to prevent unfair evasion of AIA rules, such as the time limit on filing an IPR when the IPR request comes more than a year after district court litigation has commenced between the same parties in relation to the same patent. *See Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237, 1247 (Fed. Cir. 2018), on remand, *Bungie, Inc. v. Worlds Inc.*, No. IPR2015–01264, 2020 WL 232220, at \*1 (P.T.A.B. Jan. 14, 2020), opinion made public, 2020 WL 572599 (P.T.A.B. Jan. 30, 2020) (under Federal Circuit decision saying that patent challenger bears burden of proof that it was not a real party in interest to a lawsuit filed by Bungie’s joint product development partner, Activision, more than a year before an IPR request; held, the patent challenger Bungie has not carried its burden, so is presumptively a real party in interest in the Activision litigation; so is time-barred from filing an IPR). *See generally* MERGES & DUFFY, *supra* note 87, at 955–1021 (detailed discussion of PTAB procedures and policies).

<sup>145</sup> *See, e.g.*, *Apple Inc. v. Qualcomm Inc.*, 992 F.3d 1378, 1382–83 (Fed. Cir. 2021) (licensee of a portfolio of patents does not have standing to appeal an adverse PTAB decision because the interest in eliminating a single patent is not concrete and immediate enough to create a justiciable claim). *Cf. generally* Budiardjo, *supra* note 136, at 87 (noting the “permissive standing requirements” for IPRs before the PTAB).

licensing, spinoffs, and patent pooling. Contemporary patent theory recognizes that patents help form the scaffolding for value-adding private ordering transactions. In accord with the new emphasis on transactional advantages, then, it makes sense to look closely at legal rules that destabilize exchange transactions.

Challenges by a patent owner's contracting partners have always been thought to be worth almost whatever disruption they might cause to the settled expectations of contracting parties, especially the patent owner. These disruptions can be non-trivial. Settled title is no less valuable in patent-based transactions than in other situations in which some property interest is transferred via contract. Yet, until recently, judges and many patent scholars—fixated on a concern with the scarcity of potential patent challengers—have mostly ignored the costs incurred when the law invites challenges even by the patent owner's contracting partners.

An exception is the 2021 Supreme Court case of *Minerva Surgical, Inc. v. Hologic, Inc.*<sup>146</sup> sustaining the doctrine of assignor estoppel.<sup>147</sup> This rule prevents a patent assignor who assigned invention title to an assignee (e.g., while the assignor was an employee) from later challenging the validity of a patent based on the assigned invention (e.g., when that now-former employee forms or joins a firm that competes with the assignee/former employer).

Though mostly a fight over the status of common law rules supplementing the Patent Act, the *Minerva* case at least hinted at some prudential reasons to foreclose patent challenges by contracting parties. In her opinion for the majority, Justice Kagan reviews earlier cases encouraging patent challenges, including *Lear v. Adkins*.<sup>148</sup>

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<sup>146</sup> *Minerva Surgical, Inc. v. Hologic, Inc.*, 141 S. Ct. 2298 (2021).

<sup>147</sup> *Minerva* did slightly tighten the assignor estoppel doctrine. As put by Justice Kagan: “The doctrine applies when, but only when, the assignor’s claim of invalidity contradicts explicit or implicit representations he made in assigning the patent.” *Id.* at 2302. The idea is that, to be estopped from making a statement (“This patent is invalid”), one must be on record as having made a prior, contradictory, statement (“I believe this patent to be valid”). A simple assignment—“I assign my rights to you”—is presumably not enough to show such a representation with respect to all possible claims the assignee might file based on the assigned patent. Something more is needed now. Drafters of patent assignments will probably be able to expand the relevant contract language to cover the situation at issue in *Minerva*: an amendment to the claims included in the original patent filed as a consequence of the invention assignment. Broadened patent claims added post-assignment—which the patent challenger in *Minerva* argued were not included in the inventor’s understanding of the invention at the time of the assignment—can therefore likely be precluded from challenge in the future. This is subject of course to the important caveat that any such claims be fully supported by the specification of the patent or application as it existed on the date of the assignment. Put differently, amended claims that satisfy the enablement and written description requirements under 35 U.S.C. § 112 ought to be seen as embraced by the assigned patent; the validity of these fair post-assignment claims are part of the “implicit . . . representations” made by the assigning inventor.

<sup>148</sup> *Lear, Inc. v. Adkins*, 395 U.S. 653 (1969).



Justice Kagan and the majority refused to extend *Lear*'s pro-challenge rationale so as to eliminate assignor estoppel. "*Lear* [v. *Adkins*]," she writes, "counseled careful attention to the equities at stake in discrete patent contexts—and expressly distinguished assignor from licensee estoppel."<sup>149</sup> And in footnote four of the opinion, Justice Kagan addresses the crux of the policy conflict that informs the *Minerva* decision:

Even beyond promoting fairness, assignor estoppel furthers some patent policy goals. Assignors are especially likely infringers because of their knowledge of the relevant technology. By preventing them from raising an invalidity defense in an infringement suit, the doctrine gives assignees confidence in the value of what they have purchased. That raises the price of patent assignments, and in turn may encourage invention.<sup>150</sup>

This passage reflects the reality that the rules applied to patent-based contracting affect the overall value of patents. Even without restrictions on contracting, patent owners apply a "discount function" to the expected value of a patent.<sup>151</sup> The total lump sum a patent owner expects under a royalty-bearing license must be reduced by the product of that total value and the probability that the licensed patent will survive, un-invalidated, until the end of the contract. Put differently, the amount of money the patent owner can really count on is reduced by the chance that the patent will be invalidated during the life of the agreement. Some of this uncertainty is systematic and is just a fact of life for patent owners. But some is the result of the specific rules under discussion here—rules encouraging those who have contracted with the patent owner to challenge the validity of the licensed patent. Justice Kagan and the *Minerva* majority recognize the utility of limiting at least some such challenges, those brought by parties who contract with a patent owner.

It is time to expand on this thought, in light of the new era of easy patent challenges. *Minerva* points the way to eliminating some of the uncertainty that accompanies patent transactions. As that case hints, there is no good reason to continue with the pro-challenge drift of past years. In the post-AIA environment, there are good reasons to jettison the pro-challenge policy as applied to companies that license or receive assignments of patent rights. If it made sense in the past to minimize the destabilizing effects of challenges by contracting parties, it no longer does.

The stability of private ordering arrangements gave way in the past because of the limited number of potential patent challengers. With the advent of easy patent challenges, the law can now afford to re-emphasize the long-neglected

<sup>149</sup> *Minerva Surgical, Inc.*, 141 S. Ct. at 2308.

<sup>150</sup> *Id.* at 2309 n.4.

<sup>151</sup> Because certain types of potentially invalidating prior art are very hard or even impossible to locate at the time a patent is applied for, and at the time a patent is licensed or assigned, there is always some "invalidity risk" for any patent. This gives rise to strategies such as drafting multiple patent claims covering different embodiments of an invention, and it is one of the main reasons it is difficult to estimate patent value with precision. On invalidity risk and how it is dealt with, see MERGES & LIU, *supra* note 54, at 96–98.

value of patent-based contracts. With this in mind, courts might more frequently invoke the traditional policies of settled title and the promotion of transactional certainty. These policies have heavily influenced other areas of law that deal with private ordering and economic exchange—particularly property and commercial law. There is no good reason to exclude or minimize these policies just because a contract centers on a patent.

The point I am making implies several discrete doctrinal adjustments. Except in a few rare cases, contracting parties ought to be able to agree to limit patent challenges. And the law in general should be recalibrated to more fully protect a patent owner from attacks on patent validity brought by contracting partners such as licensees and assignors. It is not that patent challenges are any less important in the post-AIA world. It is that there is no longer a scarcity of patent challengers. These changed conditions mean it is no longer necessary to subvert contract stability in order to promote patent challenges. The AIA itself promotes patent challenges by all comers. There is no longer any reason to encourage challenges by the business partners of a patent owner. Going forward, when faced with a patent-related transaction, the courts should apply the same general principles of freedom of contract and stability of title as they do for all sorts of other private deals.

#### A. *Suggested Doctrinal Adjustments and License Drafting*

For convenience, I pull together here the doctrinal adjustments that are suggested in various places in this Article. The main ones are:

- Make patent challenges by licensees and assignors permissible by default, but allow this to be changed by contract
- Enforce arbitration agreements that include exclusive jurisdiction (no PTAB challenges) clauses
- Retain the Supreme Court's *Minerva* standard for assignor estoppel

On this final suggestion, I recommend one minor interpretive move to make the *Minerva* standard work smoothly. As a reminder, Justice Kagan in the *Minerva* decision wrote that assignor estoppel is limited to “explicit or implicit representations” made by an inventor at the time the invention is assigned.<sup>152</sup> Drafters of patent assignments may react to *Minerva* by expanding the relevant language in the assignment document to cover the situation at issue in *Minerva*: a post-assignment amendment, made by the licensee, to the claims included in the originally assigned patent. The patent challenger in *Minerva* argued that the amended claims were not included in the inventor's understanding of the invention at the time of the assignment. Expansive contract language, included as part of the assignment, can thus reverse the *Minerva* outcome. This is subject,

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<sup>152</sup> *Minerva Surgical, Inc.*, 141 S. Ct. at 2302.

of course, to the important caveat that any such amended claims be fully supported by the specification of the patent or application as it existed on the date of the assignment. Put differently, amended claims that satisfy the enablement and written description requirements under 35 U.S.C. Section 112 ought to be seen as embraced by the assigned patent. To use the language of the *Minerva* Court, the validity of fair and legal post-assignment claims should be considered part of the “implicit . . . representations” made by the assigning inventor—and therefore subject to assignor estoppel (*i.e.*, a ban on post-assignment validity challenges for these claims).

In addition to these suggestions, I will add another suggestion from Professor Dreyfuss:

- Create a safe harbor for royalty step-up clauses and the like in the event of a patent challenge

This last suggestion follows Professor Dreyfuss’s advice. It creates a safe harbor for licensing clauses that either (1) call for a step-up in royalty if a licensee chooses to challenge a licensed patent, or (2) add a second step-up in the event the patent survives the challenge.<sup>153</sup> Agreements along these lines might best allocate the costs and risks of patent challenges, as described earlier with respect to bargaining over the challenge right.

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*Lear* and its fellow travelers served their purpose, but it is time for the wheel to turn again. With patent challenges far easier and more common now, and with renewed understanding of the many virtues of patent-based contracting, private law values can once more move into the vanguard. The AIA, it might be said, fully satisfies the public interest in weeding out weak patents. It musters out a sizeable militia of patent challengers, with its (relatively) modest cost and wide-open doorway to patent invalidation. Each member of the challenge militia represents in a sense a “private attorney general,” invalidating patents for self-interest and in so doing benefiting society as a whole. It is precisely because of the AIA’s success that we are left with absolutely no good reason to maintain private law doctrines that cut across the grain of free contracting and fair dealing. The pro-challenge policy is now long established, but this is surely not enough to recommend it. As fool said to Lear (the play, not the case): “Thou shouldst not have been old till thou hadst been wise.”<sup>154</sup> Pro-challenge rules are unwise under current conditions, and even Lear’s Fool can see that.

<sup>153</sup> Dreyfuss & Pope, *supra* note 73, at 1001–03.

<sup>154</sup> WILLIAM SHAKESPEARE, *KING LEAR* act 1, sc. 5, l. 25.

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