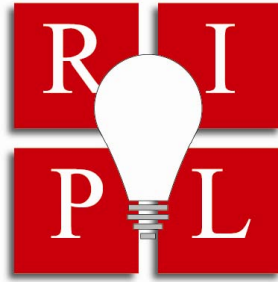


# THE JOHN MARSHALL REVIEW OF INTELLECTUAL PROPERTY LAW



## THE PERSPIRATION PRINCIPLE

DOUG LICHTMAN

### ABSTRACT

Should copyright be awarded in an instance where a work of authorship lacks inspiration and is instead simply the result of necessary and genuine hard work? Should patents likewise be offered to inventors whose achievements derive not from any flash of genius but from sweat and labor alone? In this Essay, Professor Lichtman revisits the economic case in favor of a "perspiration principle" under which hard work would be a sufficient trigger for intellectual property protection, even in instances where the resulting achievements lack the creative spark that patent and copyright law typically require.

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*Cite as* Doug Lichtman, *The Perspiration Principle*, 18 J. MARSHALL REV. INTELL. PROP. L. 463 (2019).

# THE PERSPIRATION PRINCIPLE

DOUG LICHTMAN

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## THE PERSPIRATION PRINCIPLE

DOUG LICHTMAN\*

## I. INTRODUCTION

Thirty years ago, the Supreme Court held that federal copyright law does not protect works that are the product of perspiration rather than inspiration. The case was *Feist v. Rural*,<sup>1</sup> and in dispute was a telephone directory that listed, in alphabetical order, subscriber names and their corresponding phone numbers. Lower courts had previously held that uncreative works like phone books and maps were eligible for protection because of the hard work that went into their initial creation. But the Supreme Court rejected this “sweat of the brow” theory and announced that copyright protection is rightly awarded only in instances where the work at issue demonstrates creativity. “The distinction is one between creation and discovery,” the Court declared. “The first person to find and report a particular fact has not created the fact; he or she has merely discovered its existence.”<sup>2</sup>

Decades later, the Supreme Court would similarly reject perspiration as a theory of patent protection. At issue in *Association for Molecular Pathology v. Myriad Genetics*<sup>3</sup> was an achievement related to human genetics. Specifically, the relevant inventors built and analyzed a vast database of genetic information and used it to establish that women with particular genetic markers suffer an increased risk of developing breast cancer. This insight is obviously of great economic and social value, empowering women to better anticipate and then take precautions against a life-changing risk. Yet the Court invalidated nearly all of the implicated patent claims, along the way explicitly considering and rejecting the argument that Myriad’s “extensive effort” ought to be enough to satisfy patent law’s threshold requirements.<sup>4</sup> “Myriad,” the Court explained, “did not create or alter any of the genetic information” nor “create or alter the genetic structure of DNA.”<sup>5</sup> Myriad had simply engaged in life-changing hard work.

All this is immediately puzzling. Patent and copyright law are both widely justified as solutions to what would otherwise be an incentive-destroying free-rider problem.<sup>6</sup> Original authors and inventors would invest time, money and other

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<sup>1</sup> *Feist Publications, Inc., v. Rural Telephone Service Co.*, 499 U.S. 340 (1991).

<sup>2</sup> *Id.* at 347.

<sup>3</sup> *Association for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576 (2013).

<sup>4</sup> *Id.* at 593.

<sup>5</sup> *Id.* at 590.

<sup>6</sup> *See, e.g.*, WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* 11 (2003) (“Because intellectual property is often copiable by competitors who have not borne any of the cost of creating the property, there is fear that without legal protection against copying the incentive to create intellectual property will be undermined.”); Ben Depoorter & Francesco Parisi, *Fair Use and Copyright Protection: A Price Theory Explanation*, 21 *INT’L REV. L. & ECON.* 453, 454 (2002) (“The general purpose of intellectual property protection, and more specifically, copyright protection, is to provide authors with incentives to create, by providing ‘an avenue for obtaining remuneration.’”) (quoting WENDY J. GORDON, *Fair Use as Market*

resources to create new works of authorship and new inventions, respectively. Then, if there were no patent or copyright protection, rivals would simply copy the results and compete. Original authors and inventors would be systematically disadvantaged because they alone would incur the costs of initial creation. Worse, authors and inventors would incur those costs for every project, whereas rivals presumably would only copy the successful ones. The net effect would be to significantly dampen the incentive to either invest behind, or directly become, an original author or inventor. Thus, patent and copyright law grant to authors and inventors certain exclusive rights sufficient to stop rivals from copying; and the incentive-destroying cycle is broken because authors and inventors are able to reap what they themselves have sown.

But here's the ironic point: nothing in that conventional account turns on inspiration. Indeed, quite the opposite, the conventional story is a story entirely about perspiration. An author or inventor makes some type of costly investment that a copyist would avoid, and that is what sets in motion the disincentives that patent and copyright law then helpfully reverse. In fact, in the absence of perspiration, the conventional story makes no sense. An author or inventor who creates an original achievement by way of an effortless "eureka!" moment, for example, is not meaningfully disadvantaged when later forced to compete with a copyist, because in that circumstance neither the originator nor the copyist has made a substantial enabling investment of time, money, or other resources. In these situations, patent and copyright law must look to secondary theories in order to justify protection, perhaps justifying protection by (say) arguing that intellectual property rights will encourage eureka originators to share their work publicly rather than keeping it private.

Perspiration, by contrast, needs no second-place justification. The same sympathetic story that explains the protection offered to imaginative new movies and clever new contraptions applies with equal force to creativity-free databases and discovered-but-not-invented natural phenomenon. There is no obvious difference. Achievements built on blood, sweat and tears are vulnerable to incentive-eroding copying in exactly the same way as are achievements built on some combination of effort and genius. The repudiation of perspiration as a theory of both patent and copyright protection thus raises a perplexing conundrum. If even Thomas Edison recognized that genius is built primarily on perspiration, not inspiration, why should modern intellectual property law favor the one so completely while fully neglecting the other?

My response proceeds in three short parts. I begin with two quick examples where courts have made clear that perspiration alone does not qualify the relevant author or inventor for protection. Next, I consider possible public policy justifications for this distinction. Lastly, I conclude by suggesting that perspiration ought to be rewarded through some sort of intellectual property regime even if neither copyright nor patent law turn out to be the appropriate mechanism.

## II. REJECTING PERSPIRATION

The opinions I reference in the Introduction are two of the most quotable examples of cases where courts have considered, but then explicitly rejected, perspiration as a justification for either patent or copyright protection. *Feist* then turns out to be great fodder for my inquiry in that the published opinion goes beyond those quotes to actually richly consider the issue. *Myriad*, by contrast, offers little beyond a splashy single sentence, although that failure is understandable given that the case raised a host of other difficult and controversial issues above and beyond those of interest here. Thus, in this section, I first unpack *Feist*, and then I pivot to a set of patent cases that has generated significantly less attention than *Myriad* but provides clearer evidence of patent law's skepticism when it comes to the possibility of rewarding perspiration: cases that involve the recently resurgent "obvious to try" doctrine.

### *A. Perspiration in Copyright Law*

As noted briefly above, the work at issue in *Feist v. Rural* was a telephone directory. The party asserting copyright was the local phone company, Rural. In the normal course of its business, Rural had assigned phone numbers to local residents and had kept track of the resulting name/number pairs. Rural then published a telephone directory that listed the numbers alphabetically by each subscriber's last name, and Rural hoped to earn revenue by selling advertisements in that book to local businesses. Feist, meanwhile, set out to publish a regional telephone directory and so it wanted to include Rural's name/number pairs alongside name/number pairs taken from other nearby communities. Feist, too, hoped to make money by selling advertisements in its book. The case raised the question of whether Feist could simply copy name/number pairs from Rural's published directory, or whether instead Feist either needed to purchase the information from Rural or independently gather it.

Bad cases are said to make bad law, and *Feist* turns out to have been a terrible case through which to consider the perspiration principle. One problem is that there was no intuitive urgency to the case. Had the work at issue been an uncreative medical database, the lawyers arguing in favor of copyright protection could have readily convinced the court that works built on perspiration, but lacking in inspiration, can nevertheless be of extraordinary social importance. But a case about a phone book unsurprisingly fell flat. No pulses are plausibly quickened by a discussion about the costs and value of telephone directories. *Feist* thus in essence invited the Supreme Court to assume, wrongly, that works lacking in inspiration also lack in social importance.

A second problem is that *Feist* featured an odd imbalance: Rural had created and tracked name/number pairs as part of its normal business operations, and hence at very low cost, whereas Feist would have been able to compete independently only by first engaging in a much more expensive, awkward, and error-prone process: sending employees door to door to ask residents to willingly provide their names and numbers. This imbalance made Feist's desire to copy seem sympathetic; however, imbalances like this are not inherent to the category of uncreative work. To stay

with my medical database example, for instance, the first research firm to develop a comprehensive database linking genetic profiles to health outcomes would incur substantial data-gathering costs, and so would any second firm that heard of the first firm's successes and set out to build a competing data repository. In fact, and exactly the opposite of the *Feist* pattern, the second firm's costs would likely be lower than those incurred by the first firm, not higher, because the second firm would likely learn something of value from public information about the first firm's successes, failures, and overall strategy.

Third and finally, *Feist* is a problematic case through which to evaluate perspiration-based theories of intellectual property because phone companies at the time of the *Feist* decision were heavily regulated, and those regulations carefully limited the profit that phone companies could earn.<sup>7</sup> To whatever extent Rural was destined to earn money selling advertisements in phone books, then, Rural was going to be forced to correspondingly reduce the price charged for actual phone service. The public policy issue truly being decided in *Feist* was therefore not some discrete question about the copyright status of telephone directories, but a richer and more complicated question about how phone companies should raise the money necessary to deploy and maintain landline communication services. From that perspective, the perspiration theory was in this context at least more complicated than the Supreme Court realized. Phone companies inevitably were going to be rewarded for their uncreative sweat investments; at stake in the case was only the question of whether those rewards would come in the form of higher prices for phone book advertisements or higher prices for actual telephone service.

All that said, the Supreme Court in fact did use *Feist* as the vehicle through which to consider and ultimately reject the perspiration principle, and the Court's policy analysis turns out to be disappointingly thin.<sup>8</sup> Early on, the opinion asserts that the best way to "promote the Progress of Science and the useful Arts"<sup>9</sup> is to allow copyists to "build freely on the ideas and information" generated by others.<sup>10</sup> But reality is obviously more complicated than that. True, learning and culture are both advanced when authors are allowed to stand on the shoulders of the giants who came before them. However, those giants will be less likely to both generate and share information if they know that copyists will later be allowed to take it freely; and the Supreme Court says nothing about this dynamic problem, even though copyright law elsewhere takes this concern quite seriously. Under copyright law's fair use doctrine, for example, courts regularly weigh the benefits of allowing later authors to repurpose existing copyrighted materials against the harms that this practice

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<sup>7</sup> For a good introductory discussion, see Stuart M. Benjamin & James B. Speta, *TELECOMMUNICATIONS LAW & POLICY* (CAROLINA ACADEMIC PRESS 2015) at 217-221 (discussing rate-of-return and price-cap regulation).

<sup>8</sup> An enormous literature comments on and criticizes the case. A good place to start is Craig Joyce & Tyler T. Ochoa, *Reach Out and Touch Someone: Reflections on the 25th Anniversary of Feist Publications, Inc. v. Rural Telephone Service Co.*, 54 HOUST. L. REV. 257 (2016). See also, Dennis S. Karjala, *Copyright and Misappropriation*, 17 DAYTON L. REV. 885, 888 (1992) (discussing the case and worrying that the decision "runs counter to the basic social policy of providing an incentive for the creation of desirable works that are otherwise subject to piracy").

<sup>9</sup> *Feist*, 499 U.S. at 349 (quoting the Constitutional clause).

<sup>10</sup> *Id.* at 350.

imposes on original authors' incentives.<sup>11</sup> So, too, copyright law considers this dynamic tension when defining the scope of copyright law's derivative work right, again recognizing that a broad right to control derivative work might increase the incentive to be an original author but at the same time reduce the value that would otherwise be realized through later, unauthorized re-use.<sup>12</sup>

The Court tries a second rationale just one paragraph later. This time we are told that the "very object of publishing a book on science or the useful arts is to communicate to the world the useful knowledge which it contains," and that this object "would be frustrated if the knowledge could not be used without incurring the guilt of piracy of the book."<sup>13</sup> This explanation, however, implausibly interprets the act of publication as an intentional abdication of all rights to the published information. Yet counter-examples abound. An engineer presenting work at a conference might aspire to explain some complicated technical achievement to peers while nevertheless wanting to limit their use of that same information. Trade secret holders routinely divulge sensitive information to business partners while still clearly intending to limit those partners from using that information for other purposes. The Court's simple truism isn't.

The opinion's final public policy justification is more plausible, but barely developed. The Court notes that, in certain situations, a "sweat of the brow" approach would mean that copyists would be "precluded from saving time and effort" by relying on information already gathered by others, the result being "wasted" redundant hard work.<sup>14</sup> This is a real risk and one that potentially offsets some of the benefits that might be obtained by according rights based on perspiration. And in *Feist*, in fact, Rural refused to authorize Feist to use the disputed name/number pairs; and thus, had Rural won the case, Feist might well have had to wastefully incur the costs of independently recreating the list. In my example about medical databases, it might similarly turn out that the first firm to create a relevant database would refuse to license that information to some competing second firm, thereby leaving the second firm with no choice but to engage in a redundant data-gathering process. I will say more about this issue later in this Essay, but for now I will only point out that firms in these situations do have a strong incentive to cut efficiency-enhancing deals. After all, if that second medical company is ultimately going to compete regardless, the first company may as well license the needed information and at least profit from its rival's inevitable entry.

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<sup>11</sup> See, e.g., *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569 (1994) (applying fair use analysis to an unauthorized rap version of a popular song); *Suntrust Bank v. Houghton Mifflin Co.*, 268 F.3d 1257 (11th Cir. 2001) (applying fair use analysis to a novel based, without permission, on a prior novel).

<sup>12</sup> See, e.g., *Annie Lee v. A.R.T. Company*, 125 F.3d 580 (7th Cir. 1997) (considering the scope of the derivative work right as applied the unauthorized reuse of an original author's artwork); *Anderson v. Stallone*, 11 U.S.P.Q.2d 1161 (C.D. Cal. 1989) (evaluating the derivative work right as applied to an unauthorized movie sequel).

<sup>13</sup> *Feist*, 499 U.S. at 350 (quoting *Baker v. Selden*, 101 U.S. 99, 103 (1880)).

<sup>14</sup> *Id.* at 354 (quoting in part *Rosemont Enterprises, Inc., v. Random House, Inc.*, 366 F.2d 303, 310 (2nd Cir. 1966)).

*B. Perspiration in Patent Law*

Inventions that are “obvious to try” are not eligible for patent protection. As patent courts readily admit, the result is a patent system that penalizes inventors “in areas of endeavor where advances are won only by great effort and expense.”<sup>15</sup> A representative example: the 2012 appellate decision in *Hoffmann-La Roche v. Apotex*.<sup>16</sup> The patents asserted in that case describe a method for treating the bone disease osteoporosis. At the time, it was known that regular administration of a particular drug could effectively combat the disease, but patients who used that drug suffered various significant side effects. The patent explained that a specific once-monthly dose would eliminate those side effects and yet still effectively address the underlying ailment. The question before the court was whether this insight was sufficient to qualify for patent protection.

The argument against the patents was that the dosing experiments that ultimately confirmed the optimal dosing regimen were “obvious to try” in light of the prior art. Specifically, those skilled in the art already knew that this particular drug was effective at combatting the symptoms of osteoporosis. And those skilled in the art also knew that small, frequent doses of the drug could be combined into less frequent, larger doses without reducing the drug’s overall efficacy. The patentee nevertheless argued in favor of protection, pointing out that, while the idea of an infrequent dose might have been suggested in the past, no one had previously done the hard work of actually running clinical studies to confirm the suggestion, to evaluate its safety implications, and ultimately to determine the optimal dose and frequency. The patentee had done those things, spending millions of dollars to track thousands of patients over a twelve-year period. And, while the prior art’s suggestion ultimately proved true—larger, less frequent doses were shown to be safe and effective—it was only after the patentee had done the work that doctors could advise patients to abandon the conventional dosing patterns and instead adopt the patent’s specific monthly schedule.

Nevertheless, in the context of a motion for preliminary relief, the district court ruled that the patents were likely invalid. A “skilled artisan would have expected that the patented treatment method would have had some effectiveness,” the court explained. “This suggests that Defendants have a very strong case for invalidity of the patents at issue due to obviousness.”<sup>17</sup> On appeal, the Federal Circuit embraced a similar rationale, with the two-judge majority emphasizing that “the field was trending towards intermittent dosing.”<sup>18</sup> A dissenting judge rightly complained that the majority’s approach gave no weight to the patentee’s necessary hard work. “One must wonder at the need for twelve years of experimental determination of efficacy and safety, were the result as clear and inexorable as the judges now find.”<sup>19</sup>

The above case is not an outlier. Although the “obvious to try” doctrine was out of favor in the 1990s and early 2000s,<sup>20</sup> the Supreme Court reinvigorated the doctrine

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<sup>15</sup> *In re Merck & Co., Inc.*, 800 F.2d 1091 (Fed Cir 1986) at 1100.

<sup>16</sup> *Hoffmann-La Roche, Inc. v. Apotex, Inc.*, 496 Fed. Appx. 46 (Fed Cir 2012).

<sup>17</sup> *Hoffmann-La Roche, Inc. v. Apotex, Inc.*, Civil Action No. 07-4417 (D New Jersey 2012) at 13.

<sup>18</sup> *Hoffmann-La Roche, Inc.*, 800 F.2d at 50.

<sup>19</sup> *Id.* at 53.

<sup>20</sup> The fuller history is told in CHISUM ON PATENTS §5.04A[1][f] (collecting the cases).



in a 2007 decision,<sup>21</sup> and patent courts today routinely use the doctrine to invalidate patents in instances where a patent holder's only contribution was necessary, and often expensive, hard work. Consider in this light the Federal Circuit opinion in *PharmaStem Therapeutics, Inc. v. Viacell, Inc.*<sup>22</sup> The patents at issue this time disclosed various details about both how to preserve human stem cells and how to later introduce those preserved cells back into a human host. At trial, the patents were found to be valid. On appeal, however, the Federal Circuit reversed, explicitly holding that, while the inventors' mouse experiments "may have proved conclusively what was strongly suspected before" and "may have significantly advanced the state of the science," "confirmation of what was already believed to be true . . . does not give rise to a patentable invention."<sup>23</sup>

### III. PUBLIC POLICY JUSTIFICATIONS

Thus far, I have championed the relatively uncontroversial descriptive claim that copyright and patent law protect only those achievements that derive from inspiration and hence refuse to protect achievements that derive exclusively from perspiration. Here, I explore possible public policy justifications for the distinction.

At first blush, it might seem that inspiration in this context is a proxy for social value. But that is clearly not right. Perspiration-heavy works like phone books and medical databases might not make for scintillating bedtime reading, but they nevertheless can deliver substantial societal benefits. Likewise, a clinician whose experiments make clear the precise dosing regimen relevant to some already-known drug might not win the Nobel Prize, but that clinician is surely providing important, valuable information to doctors and patients. Creative works, meanwhile, are not always of social significance. Romance novels easily qualify for protection under modern copyright standards, yet the marginal social value created by a new tawdry tale is likely modest at best. Besides, the patent and copyright systems both intentionally defer the value question to markets anyway, ignoring social value when initially granting patents and copyrights and leaving it to consumers to decide whether and at what price to purchase patented and copyrighted goods. Social value, then, does not explain the law's preference for inspiration over perspiration.

Inspiration is not a proxy for the costs of development either. Millions of dollars were spent to gather the factual data necessary to evaluate the osteoporosis drug discussed in the prior section. It will similarly cost hundreds of millions of dollars to create the factual databases that companies like Grail and Guardant will need to validate their in-development cancer screening technologies.<sup>24</sup> Like creative work,

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<sup>21</sup> See *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 421 ("When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.").

<sup>22</sup> *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 419 F.3d 1342 (Fed Cir 2007).

<sup>23</sup> *Id.* at 1363-64.

<sup>24</sup> The science being pursued by these companies and their competitors is nothing short of breath-taking. But their work can be validated only by testing these approaches against enormous

then, the costs to produce perspiration-based work can be extremely high. Moreover, and perhaps somewhat surprisingly, neither patent law nor copyright law calibrate protection based on cost anyway. Accidental inventions, for example, are protected under patent law even though they might be achieved at zero cost. Copyright similarly protects handwritten works of fiction even though the costs there might simply be an author's time, plus paper, plus ink. This admittedly strikes me as problematic; a one-size-fits-all intellectual property regime is easy to implement but likely offers too much protection to works that were in fact produced at low cost. But the important point here is that there is nothing special about perspiration along this dimension. Achievements can be costly or cheap to obtain regardless of whether they derive from inspiration, perspiration, or both.

Perspiration and inspiration do differ when it comes to evidentiary issues.<sup>25</sup> The idea here is that, when inspiration is required as a precondition to protection, it is easier for courts to evaluate allegations of copying. Consider, for example, a hypothetical dispute between two writers where one writer is accused of copying plot elements and characters from the other. If copyright law protects only extremely innovative features, and those features turn out to be included in both scripts, a court would see the overlap and appropriately assume that the second writer copied from the first. Indeed, the more innovative the overlapping details, the more plausible the copying allegation would become and the less plausible any claim of independent creation. Conversely, if copyright law were to protect mundane elements, similarity would become unreliable evidence of copying. Two factual medical databases, for example, will inevitably demonstrate all sorts of similarities, but any such similarities would not be evidence of copying so much as being a natural reflection of whatever real-world information was being collected.

Whether these evidentiary issues justify the distinctions drawn by the law is obviously a judgment call. For two reasons, however, I am skeptical. First, if intellectual property law were to include perspiration-heavy materials within the scope of protection, courts could address the resulting evidentiary problem simply by requiring, in appropriate cases, additional evidence of copying. Even today, copyright law does not rely exclusively on inferences based on similarity; to prove infringement, a copyright holder must also show that the accused copyist had access to the original work.<sup>26</sup> Similar rules could address the problem more broadly, obligating intellectual property owners to put forward concrete evidence that their work was in fact copied. Second, evidence is typically an inevitable by-product of hard work anyway, which means that unauthorized copying will actually be relatively easy to detect. To stay with my medical database example, if a colorable question is raised as to whether one firm copied its data from another, a court could quickly evaluate the issue by asking the accused firm to show evidence of the interviews, record-keeping, and other data-gathering steps it took. (Had Feist independently gathered those name/number pairs, some employee would have had the worn-out shoes and battered clipboard to

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amounts of data. See Andrew Pollack, *'Liquid' Cancer Test Offers Hope for Alternative to Painful Biopsies*, THE NEW YORK TIMES (June 4, 2016).

<sup>25</sup> For my fuller take, see Doug Lichtman, *Copyright as a Rule of Evidence*, 52 DUKE L. J. 684 (2003) (arguing that a variety of copyright doctrines are in fact best explained as evidentiary rules).

<sup>26</sup> See, e.g., *Sid & Marty Kroft Television Productions, Inc. v. McDonald's Corp.*, 562 F.2d 1157, 1162 (9th Cir. 1977) (copying is "shown by circumstantial evidence of access to the copyrighted work and substantial similarity between the copyrighted work and defendant's work").

prove it.) Evidence, then, should not be a problem, even if the works in dispute derive primarily from hard work.

Another distinction between inspiration and perspiration is that the supply of inspiration is limited in a way that the supply of perspiration is not. Simply put, there is a limited pool of authors who are even plausibly capable of writing the Great American Novel, and there is a comparably limited pool of inventors who are even plausibly capable of designing an innovative new microprocessor. But almost any firm can raise the money necessary to build a factual medical database, conduct an “obvious to try” clinical experiment, or otherwise pursue an achievement that requires perspiration but not inspiration. The resulting crowds might cause two types of troubling inefficiencies. First, there might be wasteful redundancy, with multiple groups each building look-alike databases and running look-alike clinical trials, perhaps fully unaware of one another’s simultaneous, redundant investments. Second, there might be wasteful marginal investments, as where a firm conducting one of those clinical trials might rationally hemorrhage money to accelerate its work by one day, thereby increasing its own chances of winning the race but at a net loss for society if the social benefits associated with that modest acceleration are small compared to the costs associated with achieving it.<sup>27</sup>

These are real concerns, but it is hard to know how substantial they would be in practice. One mitigating factor is that firms have an incentive to warn rivals about any potential redundancies. This is less true in conventional patent and copyright markets; there, a research firm pursuing an innovative microprocessor or an author pioneering a particularly clever science fiction plotline might be reluctant to detail his or her intentions publicly for fear that rivals will copy the innovative new concept. But a firm compiling names and numbers for a phone book, or enrolling patients for an “obvious to try” dosing study, should be willing to discourage entry by warning rivals that the project is already underway. The warning would not disclose anything but already-obvious information, and it might scare off the redundant entrant. Relatedly, even without explicit warnings, firms in markets like these will anticipate both the redundancy problem and the pressure to accelerate, and that anticipation will rationally dampen each firm’s incentive to enter the market in the first place. Thus, while in theory a virtually unlimited number of firms might enter any one of these perspiration markets, at equilibrium would-be competitors will self-regulate at least to some degree.

Moreover, it is also worth remembering that overlap and acceleration create offsetting value, which makes the entire dynamic hard to judge. If two companies each produce a factual medical database, the second database will rarely be completely identical to the first in that it presumably will contain information derived from different patients, and different doctors, at different times. Those differences not only might reveal new insights, but also might increase the medical community’s confidence in any results derived from the first. As for acceleration, while theorists might worry that society will understand a drug “too quickly” from a cost/benefit perspective, the reality is that sooner is clearly better for implicated patients, and any math to the contrary is at best incredibly imprecise because

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<sup>27</sup> For a fuller discussion of the underlying economics here, see ROBERT H. FRANK & PHILIP J. COOK, *THE WINNER-TAKE-ALL SOCIETY* (1995); Sherwin Rosen, *The Economics of Superstars*, 52 *THE AMERICAN SCHOLAR* 449 (1983).

markets cannot possibly internalize all the benefits that come when a person is cured a day early and as a result returns to a more positive, productive set of interactions with family, friends, coworkers and the like. Put differently, it takes incredible self-confidence to criticize a market for achieving worthwhile goals too quickly given how murky the relevant costs and benefits as a practical matter are. Crowds and races, then, seem like very thin reeds on which to draw a distinction between inspiration and perspiration.

#### IV. IMPLICATIONS

My primary claims in this short Essay are hard to refute. Achievements that derive exclusively from perspiration are vulnerable to the very same free-riding problems that would, in the absence of copyright and patent protection, undermine the incentive to create patent-eligible and copyright-eligible work. Yet, neither patent nor copyright law protect these achievements from copying, and indeed patent and copyright law are both explicit in their rejection of any sort of perspiration-based approach.

Harder is the question of what to do about all this. Trade secret law fills in a few of the gaps, in that perspiration-based achievements can readily qualify for trade secret protection and trade secret protection does limit unauthorized copying. That said, trade secret law is at best an imperfect and partial solution. It is hard to see how trade secret law can meaningfully incentivize the creation of something like a phone book given that the value of a phone book comes from its broad, public dissemination. Similarly, trade secret law is a poor fit for the information generated in clinical trials, among other reasons because doctors, patients, and regulators need access to that information in order to evaluate drug safety themselves. (If a drug label simply said “trust me,” few patients would). Besides, trade secret law introduces significant inefficiencies. To protect a medical database under trade secret law, for example, is to keep that valuable information under lock and key. Patent protection, by contrast, empowers patent holders to announce their achievements to the world.

Procedures currently in use at the Food and Drug Administration offer significantly more promise. Under a variety of statutory provisions, the FDA is empowered to grant limited patent-like exclusivities to firms that put in the hard work necessary to generate data that the FDA deems important to drug safety.<sup>28</sup> There is no requirement that the data be particularly surprising or innovative. The exclusivities trigger as long as the data is sufficiently relevant to drug safety. Thus, for example, in 2015, the drug company Johnson & Johnson conducted a clinical trial comparing a monthly injected form of a schizophrenia drug to daily oral equivalents. The company’s hypothesis was completely intuitive: patients suffering with schizophrenia are more likely to miss a self-administered daily oral dose than they are to skip a professionally-administered monthly injection, and thus patients on the

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<sup>28</sup> See Elizabeth H. Dickinson, FDA’s Role in Making Exclusivity Determinations, 54 Food L. J. 195 (1999) (discussing the various types of exclusivity available to drug applicants); Rebecca Eisenberg, The Role of the FDA in Innovation Policy, 13 Michigan Telecom. & Tech. L. Rev. 345 (2007) (comparing FDA exclusivities to traditional patent protections).

monthly dosing regimen should show better overall outcomes. The study confirmed that intuitive hypothesis, and the FDA rewarded the company with three years of non-patent regulatory exclusivity. Even if all the patents related to this drug expire, the FDA will not approve generic versions of this particular drug until that three-year clock has run.<sup>29</sup>

The FDA approach has several charms.<sup>30</sup> Consistent with my themes here, it protects hard work without requiring inspiration. It is also calibrated such that the FDA has authority to award seven years of exclusivity in certain instances, five years in other instances, three years under still different circumstances, and as few as six months for one particular type of data. Moreover, the FDA's approach mitigates some of the concerns about acceleration and redundancy in that the FDA not only publishes information about what studies are underway (the government literally publishes lists of all FDA-approved on-going clinical trials) but also has some ability to approve, disapprove, and otherwise influence the timing and scope of potentially redundant efforts. All this could well be a model for a broader set of rules applicable to perspiration-based achievements more generally.

The seed I hope to plant here, then, is not some radical suggestion that *Feist* should be overruled or that patent law's "obvious to try" doctrine should be repealed. Patent and copyright law both have their own substantial imperfections, and it is not clear that society's interests would be well served by significantly expanding the scope of either system to include a large category of work that has thus far been excluded from both. Instead, for now, I aim more simply to stoke further conversation about finding a solution to the free-riding problems that currently undermine the incentive to pursue perspiration-based achievements. The famous cases too easily dismiss perspiration as if it is unworthy; and the result is likely a society that underinvests in achievements that derive from effort, rather than genius.

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<sup>29</sup> See Johnson & Johnson, *Study Published in The Journal of Clinical Psychiatry Shows INVEGA SUSTENNA Effective Six Months Longer Than Common Oral Antipsychotics in Treatment of Schizophrenia*, (April 15, 2015), <https://www.jnj.com/media-center/press-releases/study-published-in-the-journal-of-clinical-psychiatry-shows-invega-sustenna-effective-six-months-longer-than-common-oral-antipsychotics-in-treatment-of-schizophrenia> (announcing study results and noting the then-pending supplemental New Drug Application); FDA, *Orange Book: Approved Drug Products with Therapeutic Equivalence Evaluations*, (April 15, 2015), <http://www.accessdata.fda.gov/scripts/cder/ob/default.cfm> (listing the three-year exclusivity for the drug).

<sup>30</sup> Rebecca Eisenberg similarly sees considerable advantages in the FDA's exclusivity program as compared to the conventional patent system. See Eisenberg, *supra* note 28, at 364-366.