Copyright at the School of Patent†

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It is a remarkable fact that the doctrine of patent law generally coheres while the doctrine of copyright does not. Two features sharpen the contrast. First, the two laws perform the same function. People debate whether these regimes should strive for justice for creators or economic efficiency for consumers, but no partisan recommends one goal for patent and another for copyright. Indeed, the obvious but largely unasked question is why we have two different laws at all, rather than a single system of innovation policy. Second, lawmakers have fiddled with the two fields for an equally long time. The first Congress passed its first patent statute on April 10, 1790¹ and its first copyright statute less than eight weeks later.² One would suppose that the same group working on essentially the same problems for the same time would have figured them out or fouled them up to the same degree. Yet today our law of patents basically makes sense, while the core of copyright law continues to be baffling.

Part I of this Article supports the claim that three central elements of copyright doctrine lack justification and coherence. The first confounding element is the law of “idea” and “expression,” with its related doctrine of “merger.” Although this law sets forth the central limit on the extent of copyright protection, it is cast in conclusory terms that fail to give judges, lawyers, and authors a way to determine its scope. The second conundrum is copyright’s test for determining when one work infringes another and, in particular, the appropriate role for expert versus lay opinion. Here the problem is not that the law presents a single agreed-upon standard that is intellectually bankrupt. Rather, the law presents a blizzard

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¹ An Act to promote the progress of useful Arts, 1 Stat 109 (April 10, 1790).
² An Act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies, during the times therein mentioned, 1 Stat 124 (May 31, 1790).
of contending positions, with no consensus on rules or even on why
the subject producing that blizzard matters at all. The third puzzle
is copyright’s requirement of originality, which stands as one of the
very few criteria authors must satisfy to qualify for copyright pro-
tection. The legal definition of originality is strikingly perverse.

Part II aims to open a conversation about a remedy for these
apparently disparate problems by showing that they are closely re-
lated. Using an economic perspective on innovation policy, this
Part defends the notion that we should regard core portions of pat-
ent doctrine as intellectual successes worthy of imitation. Most
fundamentally, patent law establishes a set of sensible and efficient
incentives to creation. Copyright should learn this basic lesson, for
a focus on sound incentives would give copyright doctrine the co-
herence it now lacks.

Patent doctrine, for instance, defines experts as those with or-
dinary skill in the art. It sensibly calls upon these experts to iden-
tify cases in which courts can waive patent protection without im-
pairing incentives to create, thereby giving products to consumers
at lower prices whenever possible. In this light, Part III shows how
copyright law could redefine its originality requirement to do the
same. The proposal is for judges to assume that copyright protects
a work unless a defendant offers proof that those with ordinary
skill in the field believe that the incentive of copyright protection
was superfluous to the plaintiff’s creation of that work.

Part III also suggests that courts scrap the words “idea” and
“expression” as tools of analysis and use them only to identify con-
clusions reached through a different method of analysis. This Part
again looks to patent law for guidance about incentives. Copyright
law would best serve consumers if it greeted authors complaining
of copyright infringement with two questions. First, based on a de-
tailed comparison of the parties’ works, what exactly did the de-
fendant copy from the plaintiff? Once a court has defined the pre-
cise thing the defendant took, its second question should be
whether that thing was original to the plaintiff in the sense that
this article proposes for that term: did the thing’s creation involve
merely inexpensive borrowing from familiar cultural tradition, or
did its creation require costly investment that the plaintiff made
only in reliance on the promise of copyright? If the former, a court
should call the taken thing an idea and rule for the defendant. If
the latter, a court ought to name it expression and rule for the

\[^3\] 35 USC § 103 (1988).
plaintiff—unless the defendant can make the difficult showing that copyright protection was indeed superfluous as an incentive for the plaintiff’s creation. This Part concludes by applying this incentive theory from patent law to some leading cases.

Finally, Part IV offers brief and tentative explanations of why we have the two different bodies of law, and why patent strides while copyright limps. My suggestion on the first issue is that the difference stems from a simple matter of frequency: compared with inventors, authors are extremely numerous. The individualized and advanced definition of property rights in patent law is simply too costly for use in copyright law. On the second score, I conjecture that patent law, despite its sheen of high technology, deals with a copying problem that is unitary and primitive in comparison with the array of copying technologies to which copyright law has had to adapt. Although patent law might seem forbidding, in fact it has confronted a far simpler policy problem than has the still-disorganized realm of copyright.

I. THREE PROBLEMS AT THE HEART OF COPYRIGHT DOCTRINE

Our copyright statute devotes dozens of sections to minutiae but ignores three core problems. This Part sets forth the three pieces that comprise copyright’s doctrinal puzzle.

A. The Metaphysics of Idea and Expression

The most notorious problem in copyright law is the idea/expression dichotomy. The Supreme Court launched this doctrine more than a century ago. Congress codified it in 1976, making clear that it sought to restate rather than to alter the judicial doctrine. Copyright law gives authors the exclusive right to reproduce their works of authorship. (I occasionally and synonymously call these works “texts.”) This law currently protects works or texts in any tangible medium of expression, such as books printed on paper, computer programs recorded on diskette, photographs on

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* Baker v Selden, 101 US 99, 100-01 (1879) (“where the truths of a science or the methods of an art are the common property of the whole world, any author has the right to express the one, or explain and use the other, in his own way”).
* 17 USC § 102(a), (b) (1988).
* See HR Rep No 94-1476 at 57 (cited in note 4) (“Section 102(b) in no way enlarges or contracts the scope of copyright protection under the present law.”).
light-sensitive material, paintings on canvas, and sculptures in stone. The idea/expression dichotomy limits this protection. It states that copyright protects authors against the copying of their expressions but not of their ideas. Thus an author has no recourse against a free rider who copies only the idea of the copyrighted work.

Although simple to recite, this basic rule is difficult to make concrete. In a telling omission, Congress failed to define the key terms “idea” and “expression.” The leading judicial effort to give meaning to the terms is Judge Learned Hand’s abstractions test, which he announced in Nichols v Universal Pictures Corp. The dispute demanded that Hand decide whether moviemakers had exceeded their rights in borrowing from Nichols’s play without permission. Hand formulated his task in this renowned passage:

Upon any work, and especially upon a play, a great number of patterns of increasing generality will fit equally well, as more and more of the incident is left out. The last may perhaps be no more than the most general statement of what the play is about, and at times might consist only of its title; but there is a point in this series of abstractions where they are no longer protected, since otherwise the playwright could prevent the use of his “ideas,” to which, apart from their expression, his property is never extended.

This definition of idea and expression makes one long for concrete examples. Like Nichols’s popular, earlier play Abie’s Irish Rose, Universal’s movie The Cohens and the Kellys was a comedy about two New York families, one Jewish and one Irish, whose offspring marry to their fathers’ chagrin. Both young couples have children—twins in the play, a single grandchild in the film. In both the play and the film, the fathers clash with each other, and at least one father rejects his progeny. Like the play, the film ends with reconciliation on all sides. But Judge Hand minimized these common elements. He concluded that “[a] comedy based upon conflicts between Irish and Jews, into which the marriage of their children enters, is no more susceptible of copyright than the out-

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8 45 F2d 119 (2d Cir 1930). Compare Sid & Marty Krofft Television Productions, Inc. v McDonald’s Corp., 562 F2d 1157, 1163 (9th Cir 1977) (“The difficulty comes in attempting to distill the unprotected idea from the protected expression. No court or commentator in making this search has been able to improve upon Judge Learned Hand’s famous ‘abstractions test’ articulated in Nichols.”).

9 Nichols, 45 F2d at 121.
Judge Hand therefore excused Universal because it took only Nichols's idea, even though Universal's taking led to many similarities between the works. This statement of the idea/expression dichotomy expresses a crucial limitation of the property right by giving every admitted copier a potential defense. The doctrine's function is essential, but Judge Hand framed the issue metaphysically, and in a way that gives metaphysics a bad name. As he stated it, the idea/expression doctrine is incoherent and lacks any stated alternative foundation. The result is a doctrine that announces results but does not determine or justify them.

1. The false dichotomy of idea and expression.

This law is founded on a claimed polarity whose opposites can turn into each other with alarming ease. In common usage, an idea is an intangible and abstract thought. But an idea inevitably becomes a concrete expression as soon as a human states it. That is, an idea cannot be defined or communicated to another person without becoming an expression, a particular and precise collection of meaningful symbols. For example, I might think about “the comedy of warring clans spawning offspring who cross clan barriers.” But as soon as I utter those words, I have made my idea into expression—literally.

By the same token, an expression always is an idea, a concept that can be taken into the brain and imagined in greater detail and in different forms. Anna Karenina, for instance, seems like a fully elaborated expression. But Tolstoy's expression leaves countless creative options for even the most devotedly authentic interpreter. The pages and pages of print were but an idea for the writer who penned the screenplay for the movie, the director who directed it, the actors who animated it, the cinematographer who shot it, and the engineers who made its footfalls sound cheerfully solid or spookily hollow. Tolstoy gave them all an idea, but just an idea, about what to do. And they in turn expressed themselves—literally.

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10 Id at 122.
11 But see Sir David Ross, Plato's Theory of Ideas 84-89, 239-45 (Greenwood, 1951) (distinguishing Forms or Ideas from things sensed in the world).
12 See also Wendy J. Gordon, Toward a Jurisprudence of Benefits: The Norms of Copyright and the Problem of Private Censorship, 57 U Chi L Rev 1009, 1023-24 & n 56 (1990) (“it is hard to imagine how an idea, once expressed in words or otherwise given form, could fail to be part of a ‘work of authorship’”).
The terms "idea" and "expression" gave Judge Hand no guidance at all in deciding whether Universal had acted lawfully. Suppose I describe what Universal copied from Nichols as "the comical story of the conflict between a New York Jewish family and an Irish Catholic family in which the children fall in love, their fathers oppose their marriage plans on cultural and religious grounds, the kids get married secretly, the fathers become furious, but eventually there is a reconciliation." This plot description is simultaneously an idea that can be further elaborated (as for instance Universal's film did) and an expression in and of itself (a meaningful communication comprised of fixed symbols). Alternatively, imagine the text of the play Abie's Irish Rose lying before you in a binder, as though Nichols had just finished writing it. That text also is both an idea susceptible of further elaboration (either in print or in a different medium) and an expression, complete in and of itself. Judge Hand officially attributed the plot description to the public domain as idea and the text of the play to Nichols as expression. Yet, as a literal matter, the doctrine entitled him to switch the assignments. There is, after all, nothing literally wrong with calling a spade a spade—or a playing card—when both descriptions fit exactly.

This literal analysis shows that the supposed idea/expression dichotomy does not identify two boxes at all, but only a single battered crate. It flunks the basic test for useful legal distinctions because its falsely dichotomous character subverts its ability to generate robust conclusions. Because the rule provides no technique for excluding competing resolutions, its use is always incomplete and always susceptible to critique by its own terms. This weakness means that litigants and judges can run amok with the incoherences of the idea/expression dichotomy and the rule cannot chide them for it.

2. The measurelessness of abstraction.

One might accept this literal critique but still respond that the idea/expression doctrine, as Judge Hand defined it, is not truly about ideas and expressions. Rather, one might argue, the doctrine is about more abstract or less abstract versions of a text, in that it bars free riders from copying in detail but permits them to reproduce a relatively abstract version of a work. This account would conclude that Universal copied lawfully because, rather than taking Nichols's play verbatim, it took only a highly abstracted version of the play. Yet this nonliteral "series of abstractions" account also fails. It depends on, but fails to deliver, a reliable yard-
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stick to measure the property. When property owners want to build a wall 25 feet from their front door, they can be sure that a foot means 12 inches. Inches are stable and verifiable units. But the Bureau of Weights and Measures keeps no standard for measuring abstraction, and it is impossible even to imagine what sort of scale could gauge this quality reliably. We have no ruler for a problem in which measurement is crucial.

Neither do the particular facts of decided cases create a usable ruler from precedent. One might wish, for instance, that Judge Hand’s decision in Nichols defined the degree to which a filmmaker was free to take from the works of playwrights without their consent. But Judge Hand himself foiled this hope six years later in his celebrated\(^{13}\) opinion in Sheldon v Metro-Goldwyn Pictures Corp.,\(^{14}\) which together with Nichols created a Hand-made dyad that every copyright casebook author since has included.

In Sheldon, Judge Hand drew a sharply different conclusion from facts superficially similar to those in Nichols. The defendant’s movie Letty Lynton and the plaintiff’s play Dishonored Lady were both based on the actual exploits of the nineteenth-century Scot Madeleine Smith. These stories recounted “the acquittal of a wanton young woman, who to extricate herself from an amour that stood in the way of a respectable marriage, poisoned her lover.”\(^{15}\) The court held that “the plaintiffs’ originality is necessarily limited to the variants they introduced” to the historical facts used in their play.\(^{16}\) But Judge Hand found that this contribution by the plaintiffs had been large; the play’s authors had taken “the merest skeleton” from historical fact, and “[t]he incidents, the characters, the mis en scene, the sequence of events, were all changed . . . .”\(^{17}\) The defendants’ movie, moreover, had borrowed many details of characterization, the same mis en scene, and considerable and particular parallelisms of incident. Hand concluded that “these details

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\(^{13}\) See, for example, Ralph S. Brown and Robert C. Denicola, Cases on Copyright 210 (Foundation, 5th ed 1990) (including next to the text of the Sheldon opinion a portrait of a somber and pensive Judge Hand and the comment that “[w]hat George Wharton Pepper said of the Sheldon opinion can be many times justly repeated about Judge Hand’s writings: ‘The entire opinion exhibits craftsmanship at its best and is entitled to be ranked as a model of judicial style.’ George Wharton Pepper, The Literary Style of Learned Hand, 60 Harv L Rev 333, 341 (1947).”).

\(^{14}\) 81 F2d 49 (2d Cir 1936).

\(^{15}\) Id at 50.

\(^{16}\) Id at 54.

\(^{17}\) Id at 50.
in the same sequence embody more than the 'ideas' of the play; they are its very raiment."

My point is not that the two opinions are inconsistent; later I shall argue just the opposite. Nor do I suggest that the Sheldon opinion casts no light on the extent of copyright owners' rights. Repeated decisions can enable one to detect and articulate an implicit doctrine or useful process of reasoning at work, something I next attempt. My point here is that Nichols's series of abstractions imagery did not assist Judge Hand in deciding Sheldon. In defending his resolution in light of Nichols, Judge Hand said only that the moviemakers were within their rights if they used "only the more general patterns [of the play]; that is, if they kept clear of its 'expression.' " In reverting to the term "expression," Judge Hand begged the very question at issue, effectively confessing that our language's descriptions of the varieties of abstractions do not afford a reliable rule of decision.

My charges of unmoored doctrinal ad hockery find support in, of all places, the language of Nichols. The author of the abstractions test jolts us by endorsing rather than rebutting the critique. Judge Hand agreed that "the decisions cannot help much in a new case"—a conclusion that, if true, largely destroys the supposed rule of law in a realm of statutory silence. After describing the series of abstractions that he offered as a technique for locating the boundary between the privately owned expression and the publicly available idea, Judge Hand jarringly announced that "[n]obody has ever been able to fix that boundary, and nobody ever can." He concluded with the lament that "we are as aware as any one that the line, wherever it is drawn, will seem arbitrary ...." In another opinion he declared, "Obviously, no principle can be stated as to when an imitator has gone beyond copying the 'idea,' and has borrowed its 'expression.' Decisions must therefore inevitably be ad hoc."

These confessions are startling. They read as though Duncan Kennedy had traveled back in time and convinced a fixture of the judicial establishment to plant subversive seeds for his followers to harvest a half century later. Agreeing with this criticism, Judge

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18 Id at 55.
19 See text at notes 130-52.
20 Sheldon, 81 F2d at 54.
21 Nichols, 45 F2d at 121.
22 Id.
23 Id at 122.
Frank Easterbrook has written that although Hand’s “opinions still dominate this corner of the law, . . . [his] ‘abstractions test’ . . . . is not a ‘test’ at all. It is a clever way to pose the difficulties that . . . . does little to help resolve a given case . . . .”

3. The manipulability of merger.

Later opinions add material for this critique by embroidering the idea/expression dichotomy with the thread of the so-called merger doctrine. Merger doctrine holds that copyright protection lapses for a work in which idea and expression “merge” or become “inseparable.” We should become suspicious upon hearing that it is possible for two supposedly dichotomous concepts to merge into inseparable unity. The doctrine of merger announces this phenomenon, however, whenever “there are no or few other ways of expressing a particular idea” apart from the plaintiff’s particular expression. In such instances, courts claim to break with their normal practice by giving later authors freedom to copy the first author’s expression. The rationale is that this freedom is necessary to liberate for copying the first author’s idea—which axiomatically can never be subject to copyright protection.

The case commonly cited as the doctrine’s source and its classic illustration, even though it failed to use the word “merger,” is Morrissey v Proctor & Gamble Co. Morrissey sued Proctor & Gamble for copying the rules for a promotional sweepstakes contest based on participants’ social security numbers. Notwithstanding the nearly verbatim copying, the court worried that “to permit copyrighting would mean that a party . . . by copyrighting a mere handful of forms, could exhaust all possibilities of future use of the substance.” The court thus excused Proctor & Gamble’s copying because Morrissey’s idea (or substance) and expression had merged.

The Morrissey result probably makes sense. But indeterminacy overwhelms its logic of merger. Before a court can decide

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25 Nash v CBS, 899 F2d 1537, 1540 (7th Cir 1990).
26 See, for example, Apple Computer, Inc. v Franklin Computer Corp., 714 F2d 1240, 1253 (3d Cir 1983).
27 See, for example, Herbert Rosenthal Jewelry Corp. v Kalpakian, 446 F2d 738, 742 (9th Cir 1971).
28 Apple Computer, 714 F2d at 1253 (emphasis added).
29 See, for example, Toro Co. v R & R Products Co., 787 F2d 1208, 1212 (8th Cir 1986) (dictum).
30 379 F2d 675 (1st Cir 1967).
31 Id at 678 (emphasis added).
whether "there are no or few other ways of expressing" plaintiff's idea, it must define the plaintiff's idea. No unique abstract description or idea is self-evidently appropriate; instead there exists, as Judge Hand pointed out, "a great number of patterns of increasing generality [that] will fit equally well, as more and more of the [detail] is left out." As usual, the crucial doctrine remains mute about how far up the scale the judge should proceed before testing the number of alternative expressions. Without a scale, it is impossible to say. Nonetheless, cases applying the merger doctrine inevitably do say, settling on an implicit specification of idea that confines alternative means of expression to a relatively small number. Also inevitably, however, a variety of alternative definitions remains both conceivable and consistent with the malleable doctrinal terms. The merger doctrine's use of idea and expression thus is characteristically open-ended—useful for announcing a decision, but not for generating or justifying one.

To demonstrate a critique that applies to every case invoking or rejecting the merger doctrine, observe first that the Morrissey court implicitly defined the idea as "advertising using a sweepstakes based on social security numbers." Defining idea so narrowly does leave a relatively small number of alternative expressions. (Actually, the number of equivalent rephrasings probably runs to the hundreds or thousands, but this quibble is at once digressive and fantastically tedious to verify.) We can multiply these alternative possibilities to a countlessly large number and thus negate merger simply by choosing a more abstract definition of the idea. For instance, it is equally accurate to define the idea of Morrissey as "advertising using a sweepstakes based on a number." One can generate contest numbers in an endless number of different ways: phone numbers, birthdays, addresses, guesses about the daily volume of the New York Stock Exchange or the point spread in some athletic contest, or eight digit numbers picked at random. In doctrinal terms, merger dissolves and Morrissey wins. To the same end, we could define Morrissey's idea simply as "advertising using a sweepstakes," or even more simply as just "advertising." The merger doctrine contains no logical rule for selecting the decisive level of abstraction.

As I have already said, Morrissey's outcome probably makes sense, as do the outcomes in Nichols and Sheldon. But the doctrine that justifies these results is inconclusive and ultimately arbi-

32 Nichols, 45 F2d at 121.
33 Morrissey, 379 F2d at 676.
trary. Every mention of idea and expression states legal conclusions while doing nothing to justify them. Every utterance of the terms should prompt lawyers and judges to ask, “Why does copyright law allow defendants to copy this thing labeled an ‘idea’? How do we know that plaintiffs cannot appropriate some other thing called ‘expression’?” To these basic questions, the doctrine of idea and expression can offer no answers. The kindred merger doctrine merely buries more deeply the questions it begs.

B. Confusion About the Relevance of Expert Opinion

A second core problem in the law of copyright concerns the use of expert opinion in infringement cases. The variety of judicial attitudes is remarkable. Some courts demonstrate absolutely no interest in either highlighting or limiting the use of expert opinion. Other courts banish experts altogether. Still other courts set forth involved and separate roles for expert and lay opinions, even while disagreeing with each other about the definition of these roles. To complete the circle, other courts defer completely to expert opinion on the matter of copyright infringement. Yet for all this diversity of attitude, the cases offer no understanding of the consequences at stake or the considerations that ought to control.

As a matter of copyright doctrine, some courts ignore the question of experts altogether. For instance, when the owners of the Chiffons’ hit “He’s So Fine” claimed that George Harrison’s song “My Sweet Lord” infringed their copyright, District Judge Owen displayed complete indifference about distinguishing expert from lay opinion. He permitted expert witnesses to testify, but expressed neither aversion nor deference to their views. Rather, he compared the two tunes (including their musical notations) and announced that “the two songs are virtually identical.” The court apparently viewed the matter of experts not as a special issue in the law of copyright, but rather as a background question to be handled by the law of evidence.

Judge Hand, in contrast, was direct in his condemnation of expert witnesses. In Nichols, he wrote that in copyright cases the testimony of an expert

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34 Bright Tunes Music Corp. v Harrisongs Music, Ltd., 420 F Supp 177 (S D NY 1976).
35 Id at 177 nn 3, 6; 180 n 11.
36 Id at 180.
37 See, for example, FRE 702 (court can permit expert testimony when helpful to trier of fact).
ought not to be allowed at all; ... it cumbers the case and

tends toward confusion, for the more the court is led into the

intricacies of dramatic craftsmanship, the less likely it is to

stand upon the firmer, if more naive, ground of its considered

impressions upon its own perusal. We hope that in this class

of cases such evidence may in the future be entirely excluded

. . . .

Elsewhere, Judge Hand announced that the extent of copyright

protection should be tested from the standpoint of the "ordinary

observer." 38

Yet Judge Hand joined Judge Frank's majority opinion in the

famous case of Arnstein v Porter, which stressed the importance of

separating two different elements of the plaintiff's case: (1)

whether the defendant copied from plaintiff's copyrighted work;

and (2) whether the copying constituted illicit or improper appro-

priation. 39 The second issue appears to be the familiar question of

whether the plaintiff took expression or mere idea (although Judge

Frank did not use that terminology). Arnstein's treatment of this

second issue was entirely consistent with Judge Hand's aversion to

experts, for the court wrote that the issue was to be judged by "the

response of the ordinary lay hearer; accordingly, on that issue, 'dis-

section' and expert testimony are irrelevant." 40

This distaste for experts did not extend, however, to the first

issue of whether the defendant had produced the accused work by

gaining access to and copying the plaintiff's creation. On this mat-

ter, Judge Frank curtly and without citation declared that "analy-

sis ('dissection') is relevant, and the testimony of experts may be

received to aid the trier of the facts."

This sharp and unex-

plained departure from the rejection of expert opinion leaves read-

ers wondering why expert opinion is misleading about ideas and

expressions but instructive about copying. Moreover, this sentence

equates the relevance of expert testimony with the practice of

"analysis ('dissection')"—a practice epitomized by Nichols, the

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38 Nichols, 45 F2d at 123.
39 Peter Pan Fabrics, 274 F2d at 489.
40 154 F2d 464, 468 (2d Cir 1946).
41 Id. See also id at 473 ("The question, therefore, is whether defendant took from
plaintiff's work so much of what is pleasing to the ears of lay listeners, who comprise the
audience for whom such popular music is composed, that defendant wrongfully appropri-
ated something which belongs to the plaintiff."). But compare id ("Expert testimony of mu-
sicians may also be received, but it will in no way be controlling on the issue of illicit copy-
ing, and should be utilized only to assist in determining the reactions of lay auditors.").
42 Id at 468 (emphasis added).
very opinion that condemned the use of experts. To this point, then, one can conclude only that famous judges have had opinions about experts in copyright infringement cases that are forceful and particular, but puzzling.

One cannot dismiss as freakish Arnstein's opaque directive that experts are to be shunned for some copyright purposes but embraced for others. The Ninth Circuit likewise has set forth precisely limited roles for experts and lay observers in the widely cited case of Sid & Marty Krofft Television Productions v McDonald's Corp.\textsuperscript{43} To readers' frustration, however, the Ninth Circuit defined these roles in different terms; the Krofft court said its tests, while similar to those in Arnstein, did not "resurrect the Arnstein approach."\textsuperscript{44} Krofft did follow Arnstein precisely, however, in its failure to explain the significance of the issue of expert opinion to which it devoted such detail.

In Krofft, the court announced that it would perform two tests to decide the question of copyright infringement: an extrinsic test and an intrinsic test.\textsuperscript{45} The "extrinsic" test, the court said, aimed to decide whether there was substantial similarity between the ideas of the works of the plaintiff and of the defendant. "[This test] is extrinsic because it depends not on the responses of the trier of fact, but on specific criteria which can be listed and analyzed. . . . Since it is an extrinsic test, analytical dissection and expert testimony are appropriate."\textsuperscript{46} A plaintiff who satisfies the extrinsic test goes on to confront the intrinsic test, which seeks to determine whether there is substantial similarity between the expressions of the two works. This test turns on the response of the ordinary reasonable person. "It is intrinsic because it does not depend on the type of external criteria and analysis which marks the extrinsic test. . . . Because this is an intrinsic test, analytic dissection and expert testimony are not appropriate."\textsuperscript{47} Krofft's exactitude implied that expert opinion fulfills some clear and definite function. But once again readers must wonder what that function is.

The Ninth Circuit recently renamed the Krofft tests but retained their riddle. The decision in Shaw v Lindheim stated that

\textsuperscript{43} 562 F2d 1157. See also Shaw v Lindheim, 908 F2d 531, 534-36 (9th Cir 1990) (expounding Krofft).
\textsuperscript{44} 562 F2d at 1165 n 7.
\textsuperscript{45} Id at 1164.
\textsuperscript{46} Id (emphasis added).
\textsuperscript{47} Id (emphasis added).
“the two [Krofft] tests are more sensibly described as objective and subjective analyses of expression,” and reiterated the relevance of experts to the former but not the latter:

The imagery presented in a literary work may also engage the imagination of the audience and evoke an emotional response. Because each of us differs, to some degree, in our capacity to reason, imagine, and react emotionally, subjective comparisons of literary works that are objectively similar in their expression of ideas must be left to the trier of fact. This statement does not reveal the point of isolating expert evidence. Rather it implies that the jury’s gut governs copyright litigation—a stance that would randomize results and could please no one except copyright litigators and their heirs.

Other courts have altogether jettisoned the intricacies of Arnstein and Krofft. At least when confronted with copyright litigation concerning “exceptionally difficult materials, like computer programs,” these courts favor a single inquiry about “substantial similarity” to which both lay and expert testimony is admissible. They reason that the programs’ complexity and unfamiliarity to most members of the public renders an “ordinary observer” test of doubtful value. They add that a two-step analysis unrealistically assumes that factfinders can or will forget what they learned in one step when applying the other. This second criticism makes one question the benefit of such an apparently artificial exercise outside the computer context.

To complete the circle, another Ninth Circuit decision has declared in effect that expert opinion may be the only relevant basis for analysis of computer program infringement. Johnson Controls v Phoenix Control Systems stated a rule nearly free of content: whether copyright protects the “non-literal components” of a computer program, including its “structure, sequence and organization and user interface,” depends on whether the particular component in question qualifies as expression or idea—an inquiry that itself depends “on the particular facts of each case.” The court claimed

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48 908 F2d at 535 (emphasis in original).
49 Id at 538.
51 Whelan, 797 F2d at 1232-33.
52 886 F2d 1173, 1175 (9th Cir 1989).
that the relevant perspective was that of "a reasonable person in the intended audience," citing Krofft as support. But the only evidence or analysis that the panel offered for its holding that the plaintiff was entitled to a preliminary injunction was the district court's reasoning, which in turn appeared to depend largely or exclusively on the report of a special master, whom the defendant accused of being in reality a court-appointed expert. The Ninth Circuit rejected this complaint as untimely, therefore leaving undisturbed the judicial deference to the special master's purportedly expert views.

Thus we witness the wide array of judicial attitudes towards expert opinion. Until we gain some notion of the purpose of distinguishing between the opinions of experts and those of laypersons, we must simply accept this array as puzzling and unpredictable. In a second respect, therefore, copyright doctrine seems adrift.

C. The Perversity of Defining Originality as Variation

A third puzzle at the heart of copyright doctrine is the requirement of originality or novelty. The 1976 Act states that copyright will protect works of authorship that are "original," yet it leaves the key word undefined. This silence has forced the courts to decide how original a work must be for copyright protection to apply. The question typically arises when a plaintiff sues for copyright infringement and the defendant replies that the plaintiff's work is not sufficiently original to qualify for copyright protection. (Some courts say this defense raises the issue of work of authorship rather than originality, but I use the latter, more conventional label for the same concern.) Courts confronted by such defenses agree that copyright law demands less originality than does the law of patent. Beyond that agreement, the judicial definitions of copyright originality have been perplexing and contradictory.

A leading case illustrating this doctrine's unhappy state is Bell v Catalda. Print producer Bell contracted for copies of old masters' paintings, including Pinkie and Blue Boy, that were in the public domain. Bell specified that the reproductions be by mezzo-
tinting, which permitted “quite a satisfactory reproduction of the original painting in whatever size desired . . . , preserving the softness of line which is characteristic of the oil painting.” Catalda copied these mezzotints, sold the copies, and defended against Bell’s consequent copyright suit by arguing that copyright law ought not protect anything so unoriginal as mezzotint copies of old masters.

In rejecting this argument, Judge Frank’s opinion gave a bad justification for a good result. His logic followed two conflicting and unsatisfactory strains. The first emphasized the smallness of copyright’s requirement of originality. One passage explained that the originality that copyright demands of authors is far more modest than the novelty that patent law requires of inventors. “‘Original’ in reference to a copyright work means that the particular work ‘owes its origin’ to the ‘author.’ No large measure of novelty is necessary.” If this famous passage gives us any information at all, it tends towards paradox and internal contradiction. Such misleading usage suggests that I can make or author an original copy of Anna Karenina simply by standing at the copying machine with enough nickels, for the photocopy “owes its origin” to me.

If works are original when they owe their origin to their author, why then is not every copyist an author and every copy that exists therefore original? Most people would regard this definition of original as paradoxical, or at least silly. Moreover, Judge Frank’s second sentence contradicts this implication by observing that copyright requires no large amount of originality—thereby implying that copyright does require at least some measure. Judge Frank could have given content to this formulation by defining with care the word “author,” but instead he simply surrounded the term with quotation marks. In a similar vein, Judge Frank wrote that “[o]riginality in this context means little more than a prohibition of actual copying”—a formulation that again leaves mystery as to why Bell’s protected art reproduction counted as more than unprotected “actual copying” of the old master it portrayed. Judge Frank’s first line of reasoning thus failed to define copyright’s originality requirement in a tractable way.

58 74 F Supp at 975, 979.
59 191 F2d at 102 (citation omitted). See also 191 F2d at 104 (“[t]he mezzotints . . . ’originated’ with those who made them”).
60 See id at 100, 102, 103, and 105.
61 Id at 103 (quotation marks and citation omitted) (emphasis added).
His second line of reasoning stumbled by stressing the extent of variation between the original old masters and the plaintiff's mezzotints:

All that is needed [is to contribute] something more than a "merely trivial" variation, something recognizably "his own." . . . No matter how poor artistically the "author's" addition, it is enough if it be his own.

. . .

There is evidence that [the mezzotints] were not intended to, and did not, imitate the paintings they reproduced. But even if their substantial departures from the paintings were inadvertent, the copyrights would be valid. A copyist's bad eyesight or defective musculature, or a shock caused by a clap of thunder, may yield sufficiently distinguishable variations. Having hit upon such a variation unintentionally, the "author" may adopt it as his and copyright it.62

Two failures blight this logic. First, we are agog to hear Judge Frank treat as credible any evidence that mezzotint copies "were not intended to, and did not, imitate the paintings they reproduced." This sentence can barely be read with a straight face. Its final word alone confounds its claim.63

Second, and of more general significance, it is perverse to condition copyright protection upon a demand that authors include variations between their work and the things they aim to portray. Since its inception, American copyright law has protected works whose quality largely depends on the absence of variation between subject and rendition. For instance, the Copyright Act of 1790 protected maps and charts. The last thing navigators want is variation for the sake of originality.64 Copyright also protects telephone directories, where the notion of changes for the sake of originality is arresting. In fact, it is remarkable that a judge should have defined originality as variation in a case about collector-quality art reproductions. The uninitiated would think that protection should instead correspond to the accuracy of the reproduction.

Fortunately, Bell v Catalda never made good on its threat to withhold copyright protection absent proof of variation. After announcing the requirement, Judge Frank neglected to demonstrate

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62 Id at 102-05 (citations omitted) (emphasis added).
63 See also 74 F Supp at 975 (“The artists employed to produce these mezzotint engravings in suit attempted faithfully to reproduce paintings in the mezzotint medium so that the basic idea, arrangement, and color scheme of each painting are those of the original artist.”).
64 See Bell, 191 F2d at 101 (Congress “authorized the copyrighting of a mere map which, patently, calls for no considerable uniqueness.”).
that the plaintiff satisfied it.\textsuperscript{65} Later courts, however, have not been so beneficially careless. The Second Circuit's en banc decision in \textit{Batlin & Son v Snyder} ruled for the defendant on the ground that "to support a copyright there must be at least some substantial variation, not merely a trivial variation as might occur in the translation to a different medium."\textsuperscript{66}

The disease has infected the heartland. In \textit{Gracen v Bradford Exchange}, the Seventh Circuit hailed the \textit{Batlin} rule as "a decision of the Second Circuit—the nation's premier copyright court—sitting en banc."\textsuperscript{67} Yet \textit{Gracen} applies the substantial variation test in a situation where its operation is just as alarming as in \textit{Bell v Catalda}. Bradford Exchange obtained from MGM the rights to make and sell a \textit{Wizard of Oz} series of collector plates, which are dinner plates with pictures. Bradford held a contest to select an artist for the series, which Gracen won by painting a picture of Judy Garland as Dorothy on the yellow brick road. After negotiations with Gracen stalled, Bradford hired another artist to make a "piratical copy"\textsuperscript{68} of Gracen's painting. When Bradford sold plates displaying this image, Gracen sued. Judge Posner affirmed a grant of summary judgment to Bradford on the alternative ground that Gracen's painting contained insufficient variation from the film images.\textsuperscript{69}

This holding exemplifies the perversity of every effort to define originality in terms of variation. Bradford held a contest to find an image of \textit{The Wizard of Oz} that impressed the most people as the most familiar rendition of the motion picture. Bradford's contest instructions stressed that "your Judy/Dorothy must be very recognizable as everybody's Judy/Dorothy."\textsuperscript{70} Consistent in its attitude, Bradford praised its winner as "a true prodigy," saying that hers "was the one painting that conveyed the essence of Judy's character in the film . . . the painting that left everybody saying, 'That's Judy in Oz.'"\textsuperscript{71} Yet the prize for faithful accuracy doomed Gracen's copyright suit, for Judge Posner thought her

\begin{itemize}
\item \textsuperscript{65} See id at 104-05 (demanding "distinguishable variations" without explaining what they might be).
\item \textsuperscript{66} 538 F2d 486, 491 (2d Cir 1976) (en banc). See also \textit{Durham Industries, Inc. v Tomy Corp.}, 630 F2d 905, 909 (2d Cir 1980) (reiterating support for the standard announced in \textit{Batlin}).
\item \textsuperscript{67} 698 F2d 300, 305 (7th Cir 1983).
\item \textsuperscript{68} Id at 301, quoting Gracen's counsel.
\item \textsuperscript{69} Id at 305.
\item \textsuperscript{70} Id at 301 (emphasis omitted).
\item \textsuperscript{71} Id.
\end{itemize}
painting looked hardly different from the movie. The court condemned Gracen for achieving precisely her creative goal.

The Gracen court argued that judges must demand variations in reproductions "to avoid entangling subsequent artists depicting the underlying work in copyright problems." This claim that proof problems justify a perverse definition of originality is unpersuasive. Most tellingly, the court embraced the argument in a case in which it did not apply; the court expressly identified the facts that made plausible its summary judgment supposition that the Bradford plate indeed was a "piratical copy" of Gracen's painting. If difficult questions of proof indeed arise in future cases, the appropriate solution is a high standard of proof for plaintiffs—not a definition of originality that punishes them for successfully achieving a goal that is socially deserving and efficient.

In sum, the copyright requirement of originality makes no sense because it claims variation as a virtue, while authors of many objects of copyright protection rightly regard variation as a vice. Certainly not every author aims to avoid variations on what has gone before, but copyright law embarrasses itself by assuming that authors never have such goals. Moreover, the cases in which the issue of originality is apt to arise—disputes about art reproductions, film memorials, and the like—are just the ones where the objective of trustworthy rendition is most likely. Copyright law has erred to insist that works contain variations in order to gain protection. But the case law offers us nowhere else to turn, and the statute simply ignores the problem.

II. USING PATENT LAW TO RATIONALIZE COPYRIGHT DOCTRINE

This Part aims to inspire discussion about the appropriate doctrinal solutions to the problems of idea and expression, expert opinion, and originality. The Part begins by introducing an economic perspective and using it to account for the core elements of patent law. The remainder then uses patent law's success to suggest answers to the three copyright questions.

72 Id at 305. See also William M. Landes and Richard A. Posner, An Economic Analysis of Copyright Law, 18 J Legal Stud 325, 356 (1989) ("If the derivative work is only trivially different from the original, it may be impossible to determine whether an infringing work was copied from (and hence infringed) the derivative work, the original, or both."); Frank H. Easterbrook, Intellectual Property Is Still Property, 13 Harv J L & Pub Pol 108, 111 n 7 (1990) ("the costs of tracing supply a strong argument for an arbitrary cutoff in intellectual property rights").

73 Gracen, 698 F2d at 301-02.
A. The Debate Over Patent and Copyright Goals

Patent and copyright law share the common objective of rewarding innovation to encourage the creation of new "information." I place the word in quotation marks because I use it in an especially general way. (This discussion will not draw the distinction that some have between "invention" and "innovation.") Patent law promotes the discovery of new information about useful inventions, while copyright covers more diverse endeavors. Information in the forms of a pleasing or significant array of paint on a canvas, of sounds that comprise a catchy tune or a moving concerto, or of code for a new computer program may receive copyright protection. Why reward all these various new creations? One can do so for the benefit of either consumers or producers. This section explains and adopts a consumer-oriented theory of copyright law.

Consumer-oriented innovation policy aims to achieve economic efficiency. A standard analysis of market behavior concludes that business firms will fail to produce the right amount of the general class of products known as "public goods." Lighthouses exemplify the public good's key characteristic: the creator cannot exclude users who do not pay. This nonexcludability predictably hampers or entirely frustrates producers' efforts to charge for consumers' use. The absence of a compensation mechanism suggests that private producers will simply not bother creating the correct number of public goods in the first place, though consumers want the goods. Everyone loses.

In relevant respects, new information is a public good. If we treat newly created information like the beam from a lighthouse—available to all without charge—inventors may devote too few resources to research and development, and authors too little time to writing new books. Inventors or authors can possess undoubted legal title to a physical embodiment of their creation. But if ownership of a particular machine or book still allows others the liberty to copy the new information in other machines or books, we may encounter a standard public goods market failure. Inventors may underinvent, and authors underwrite, out of conviction that expensive creation would only prompt free riders to swoop in and make off with the revenues necessary to justify the initial creative effort. Consumers suffer along with producers because producers

who decide they would rather play golf strand consumers without
the new inventions and works of authorship the consumers desire.

There are routine solutions to public goods problems. As with
lighthouses, the government can finance the creation directly and
give the good away. For the most part, however, our country seeks
to stimulate the creation of information through property rights,
not public subsidies. Patents and copyrights provide such exclusive
property rights. From a consumer perspective, then, the point of
patent and copyright law is to create incentives for producers so
that they will serve consumers' needs. Producers are but means to
the ultimate end of consumer satisfaction. And the relevant focus
is the ex ante creation of incentives, not an ex post analysis of
fairness.75

It is important to distinguish this view from producer-oriented
innovation policy, which asserts that creators' labor entitles them
to the exclusive control of its fruit. The reason is fairness, not con-
sumer well-being. A free rider who copies an inventor's discovery
or an author's work causes a potential problem of theft, not ineffi-
ciency. On this account, patent and copyright exist to vindicate the
moral entitlements that creators earn through their creation. Pro-
ducers in this framework are not means but ends in themselves,
humans to whom the law owes a duty of fairness.76

By my lights, the economists have a better argument than the
philosophers. The Constitution grants Congress the power “[t]o
promote the Progress of Science and useful Arts, by securing for
limited Times to Authors and Inventors the exclusive Right to
their respective Writings and Discoveries."77 This fundamental
warrant for federal innovation policy speaks in terms of incentives,
not justice. It does so both by specifying its goal as “progress of
Science and useful Arts” and by limiting the duration of its exclu-
sive rights. In addition, proponents of a producer-oriented theory
of copyright have yet to offer a decisive response to Judge Breyer's
20-year-old critique of their position.78

75 Compare Frank I. Michelman, Property, Utility and Fairness: Comments on the
Ethical Foundations of "Just Compensation" Law, 80 Harv L Rev 1165 (1967); Frank H.
76 See, for example, Lloyd L. Weinreb, Fair's Fair: A Comment on the Fair Use Doc-
trine, 103 Harv L Rev 1137 (1990); Wendy J. Gordon, An Inquiry into the Merits of Copy-
right: The Challenges of Consistency, Consent, and Encouragement Theory, 41 Stan L Rev
1343 (1989); Justin Hughes, The Philosophy of Intellectual Property, 77 Georgetown L J
77 US Const, Art I, § 8, cl 8.
78 Stephen Breyer, The Uneasy Case for Copyright: A Study of Copyright in Books,
Photocopies, and Computer Programs, 84 Harv L Rev 281, 294-91 (1970). See also Richard
A consumer perspective on incentives is undeniably relevant to a normative analysis of patent and copyright law. This work proceeds from that perspective. I do not claim that the framework of economic efficiency is necessarily the only relevant rubric. Moreover, this debate about values is exciting mostly in the abstract. The two analyses tend to converge as a practical matter, because law governing innovation policy usually must treat creators fairly in order to give them the incentives to act in ways that benefit consumers. As my concrete conclusions will show, the efficiency perspective generally reflects moral justice as well as economic sense.

B. The Good Sense of Much Patent Doctrine

The relevant and central portions of patent doctrine create a clear and logically tractable system of incentives. This law prompts successful inventors to create and, if successful, swiftly to submit applications that define the inventor's exact contribution. Inventors haggle with the patent examiner in charge of the case at the federal Patent and Trademark Office (PTO). The examiner checks the state of the art and denies the patent if the inventor's work is obvious in that light. The inventor then usually tries to negotiate a sufficiently narrowed definition of the invention so that this smaller and different advancement no longer appears obvious to the examiner. If the negotiation succeeds, the PTO issues a public document that precisely and officially fixes the extent of the inventor's property right. The inventor enjoys an exclusive right to make, use, or sell that invention for 17 (or, under less common conditions, 14) years. Unless they can demonstrate PTO error in granting the patent, those who make, use, or sell this invention without permission face penalties under reasonably predictable and settled infringement standards.

Patent doctrine, of course, is not serenely unblemished, nor has it functioned smoothly and without controversy since its inception. Among the most bedeviling problems is the fundamental rule that inventors cannot patent "laws of nature." Courts and commentators have yet to offer a satisfactory justification for this basic


79 See, for example, Diamond v Diehr, 450 US 175, 185 (1981); Funk Bros. Seed Co. v Kalo Inoculant Co., 333 US 127, 130 (1948).
Another patent controversy is over the correct definition of nonobviousness. Particularly since 1982 (when the Court of Appeals for the Federal Circuit became the primary appellate court for patent cases), judges have assessed nonobviousness by reference to so-called secondary considerations. The main secondary consideration is whether the inventor's device has been a commercial success. Commentators have repeatedly and persuasively shown, however, that commercial success is a poor proxy for nonobviousness. A witlessly obvious thing can be a hit because of changing buyer tastes, low cost and price, or effective marketing. Conversely, a stubbornly elusive solution can flop for all the opposite reasons. I therefore concede that patent, like copyright, has its share of warts and move on to my central topic: explaining how the intellectually successful parts of patent doctrine can render aid to the distresses of copyright law.

1. Originality.

Our patent doctrine requires that inventions be original, in the sense that applicants lose if "[they] did not [themselves] invent the subject matter sought to be patented." This requirement makes sense. It reserves the incentive of an exclusive right to those who made the research investment and denies the incentive to thieves. Besides discouraging theft, this precise targeting leaves unprotected those inventions for which the true inventor did not apply for a patent, and hence presumably was not motivated by the prospect of an exclusive right.

2. Novelty.

The patent code also demands that inventions be novel, meaning that applicants lose if "the invention was known or used by

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80 Compare Gordon Tullock, Intellectual Property, in William Kingston, ed, Direct Protection of Innovation 171, 177 (Kluwer, 1987) ("we should attempt to get new and desirable ideas in all fields, not just those of mechanical invention"), with Rebecca S. Eisenberg, Proprietary Rights and the Norms of Science in Biotechnology Research, 97 Yale L J 177, 230 (1987) ("Insofar as patent law permits inventors to keep research competitors from using their discoveries, it could aggravate existing conflict between scientific norms and the incentives created by scientific rewards."). Eisenberg concludes that a properly specified experimental use privilege could ameliorate the conflict between patent and subsidized academic research incentives. Id.


82 Id at 820-21, 823-37.

83 See note 81.

84 35 USC § 102(f) (1988). See also id at § 115.
others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent."\textsuperscript{85} This requirement of novelty does not mean that inventors get patents only if they were the very first on the planet to conceive of their inventions. In 1850 Chief Justice Taney explained that prior art was relevant only if it had existed “in a manner accessible to the public. If [a] foreign invention had been printed or patented, it was already given to the world and open to the people of this country, as well as of others, upon reasonable inquiry.”\textsuperscript{86} Later cases have refined this duty of “reasonable inquiry” to make inventors responsible for locating all printed records that are “available to persons interested and [that] could be located by persons ordinarily skilled in the subject matter with the exercise of reasonable diligence.”\textsuperscript{87} For instance, courts have required that an inventor be familiar with a single doctoral thesis existing in but a single university library, so long as the thesis is indexed and cataloged according to standard procedures.\textsuperscript{88}

One might question how effective this requirement is in prompting those who do industrial research and development to stop in the library before heading for the laboratory. If the requirement is unknown to most inventors, it will fail to exact an ounce of reading in advance of pounds of original investigation. Yet the romantic image of a lone, legally unsophisticated inventor in a garage may be less representative of reality than the corporate research department that works closely with in-house patent lawyers. Whatever the facts, patent law would be foolish to excuse inventors from all responsibility for knowing the relevant literature—as long as one agrees that at least sometimes it is cheaper to read about past wheels than to reinvent them. This point carries particular force because the patent system itself catalogs and thus economically centralizes a great deal of technological information. Whether we quarrel or concur with particular novelty decisions, then, we can generally agree that patent law operates efficiently by insisting upon novelty.

\textsuperscript{85} 35 USC § 102(a).
\textsuperscript{86} Gayler v Wilder, 51 US 476, 496 (1850) (emphasis added).
\textsuperscript{88} In re Hall, 781 F2d 897, 900 (Fed Cir 1986).
Nonobviousness.

A third patent requirement that makes evident sense is the comically but accurately named test of nonobviousness. Congress codified this test more than a century after the Supreme Court invented it. This codification directs that no patent shall issue "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter . . . would have been obvious . . . to a person having ordinary skill in the art to which said subject matter pertains." The Supreme Court explained the rationale for this rule in 1882: "It was never the object of [the patent] laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures."

This rationale harks back to the patent specter at issue in Darcy v Allin. This 1602 opinion refused to enforce a patent on playing cards, reasoning that the patent was unnecessary for the good of the realm because it did not bring any new trade into the realm. If a patent is not necessary to induce an invention, it can harm consumers. If adequate substitutes are not available, an unneeded patent causes the price of its subject good to rise from a competitive cost-based level to a monopolistic one. The patent gives its owner the power to avoid competition and to charge what the traffic will bear. Queen Elizabeth injured whist and poker players by creating an exclusive property right to cover a product that already existed. So too the Supreme Court simply injures consumers if it permits a patent on a creation that the Court is sure "would naturally and spontaneously occur . . . in the ordinary progress of manufactures." Thus the requirement of nonobviousness serves consumers by narrowing the scope of what is patentable, weeding out inventions of novel things that nonetheless did not require the special bait of patent. In short, consumers should get the best of both worlds from a test of nonobviousness: new products and processes that would never have existed absent the special promise of patent, and low prices for the new inventions that did not need the bait.

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35 USC § 103.

Atlantic Works v Brady, 107 US 192, 200 (1882) (emphasis added).

11 Coke 94b, 74 Eng Rep 1131, 77 Eng Rep 1266 (QB 1602).

74 Eng Rep at 1136-37, 77 Eng Rep at 1266.
I do not claim that patent law actually has produced good social results. I offer no data to support such a claim. Rather, I argue that the patent requirements of originality, novelty, and nonobviousness create a comprehensible and logical set of incentives to induce research and development beneficial to consumers. These pillars of patent law make sense and can help make sense of the confusions of copyright doctrine.

III. Resolving Three Copyright Perplexities

We now possess a sufficient grasp of patent law to take hold of the answers that have eluded the law of copyright. Reordering the issues will facilitate exposition.

A. The Appropriate Role for Experts in Copyright Law

Like copyright law, patent law distinguishes the opinion of experts from the opinion of laypersons. Unlike copyright law, patent law explains why it does so.

The administration of patent law’s nonobviousness requirement calls upon expert opinion in a way relevant to copyright doctrine. Obviousness is strictly a matter of opinion. To ask whether something is obvious is to ask whether that thing fits with a person’s expectations or knowledge—an inquiry that depends on that person’s particular expectations or knowledge. Experts’ familiarity with their field makes more of it seem obvious. A layperson, for instance, would be stumped if asked what had happened when the United States Supreme Court denied certiorari to a petition from a state court holding of state law. Lawyers think it obvious that nothing of substance had occurred. Any test of obviousness therefore must specify the relevant background from which the judgment issues.

The patent code sensibly requires that the issue of obviousness be judged according to the opinion of an ordinary expert—that is, “a person having ordinary skill in the art to which [the invention’s] subject matter pertains.” To rely upon a layperson’s opinion of obviousness would diminish the effectiveness of the requirement. Laypersons are easily awed by technological matters unimpressive to those trained in a particular field. The conse-

\[95\] 35 USC § 112 (governing by reference to expert opinion the adequacy of patent disclosures—an issue made irrelevant in copyright law by the absence of a disclosure requirement).

\[96\] 35 USC § 103.
quence would be to allow patents on advances that knowledgeable persons would recognize as likely to have "naturally and spontaneously occur[red] to any skilled mechanic or operator in the ordinary progress of manufactures."86 Allowing such patents would bring consumers higher prices, but no new products or processes.

Patent doctrine also wisely avoids reliance on the views of expert experts. If federal law granted patents only to technological advances that impress the Cal Tech faculty, federal law would grant very few patents indeed.87 Inventors would lose confidence in the lure of patent if experience revealed it to be mostly ruse. The second-order adjustment that is the role of the nonobviousness requirement would cripple patent law's first-order incentive function—an adjustment akin to making knives safe by removing their blades.

Thus the patent code makes just the right distinctions between expert and lay opinion. It liberates as many innovations as it can from the exclusivity of patent while preserving a trusting state of mind in our inventing population. Inventors can rest assured that the law will judge the efforts of creators according to a jury of their peers. As a result, the incentive remains live enough to motivate investments in creation and demanding enough to reserve the prize for worthy cases.

This distinction between expert and lay opinion operates only within the framework of patent law's nonobviousness requirement. It would be error to conclude from patent law that expert opinion can play some role in copyright doctrine insulated from other copyright issues. I thus turn to the copyright issue of originality before attempting to state the lesson about experts that patent law would teach to copyright doctrine.

B. Copyright Originality as Conditional Investment, Not Aesthetic Achievement

Innovation law aims to prompt the creation of new things. One might take "new" to signify something that has never before existed on Earth. Neither patent nor copyright doctrine finds this definition to be helpful. Patent law demands instead that inventions be new to our recorded public information system. Copyright

effects its version of this requirement by denying protection to works of authorship lacking originality. But we have seen that judges have yet to develop a sensible definition of that requirement.\textsuperscript{98} This section will argue that patent law implies that copyright's originality requirement should demand only that something be costly to create and unlikely to arise without copyright's protection.

1. The indirect lesson from patent law.

A direct but simple-minded lesson would be that copyright should incorporate the patent requirement of novelty or nonobviousness. Copyright law has considered and wisely rejected such superficial transfers.

On the matter of novelty, Judge Hand in \textit{Fred Fisher v Dillingham} rejected the proposal that the "rule of the patent law governing validity is to be carried over into copyrights."\textsuperscript{99} Hand extended copyright protection to a plaintiff's musical composition despite the fact that, unbeknownst to the plaintiff, the relevant aspect of the composition had appeared previously "[i]n a book of piano exercises by one Landon."\textsuperscript{100} In other words, Judge Hand protected the plaintiff's reinvention. By so doing, he refused to impose a duty of research upon the plaintiff to dig for and unearth compositions like Landon's.

Judge Hand was astute to confine the duty of library research to technological inventors and to refuse to extend it to authors of copyrighted works. We regard it as necessary and desirable that the process of technological change proceed by self-conscious incrementalism.\textsuperscript{101} Newton, after all, \textit{borrowed} the claim that he had seen further because he had stood on the shoulders of giants.\textsuperscript{102} Our belief in the idea of technological progress thus makes patent law seem wise to insist that inventors begin technological investigations by reviewing the accomplishments of others. In contrast, copyright has protected creations for which judicial insistence on historical research seems inappropriate and misguided.\textsuperscript{103}

\textsuperscript{98} See text at notes 55-73.
\textsuperscript{99} 298 F 145, 150 (S D NY 1924).
\textsuperscript{100} Id at 146.
\textsuperscript{101} Compare Landes and Posner, 18 J Legal Stud at 345 (cited in note 72) ("it is possible to describe an invention compactly and to establish relatively small classes of related inventions beyond which the searchers need not go"). See text at notes 85-88.
\textsuperscript{103} See also Landes and Posner, 18 J Legal Stud at 345 (cited in note 72) ("There are
It is conventionally desirable for composers to know the literature, but a judge would seem brazen to assert that excavating musical artifacts was the most efficient way to compose new music. Were a judge to require that cartographers begin by reviewing earlier maps rather than by traveling the ground themselves, we would be right to ask where that judge gained such confidence about the most efficient method of making maps. And we would question a judge who ordered that the author striving for the Great American Novel begin, not with an ambitious pen, but with a library card and a very large reading assignment. My point is not that such approaches necessarily are bad. Rather, it is that judges lack confidence that these methods are the only good ways to proceed. Different notions about the efficient process for creating different types of innovations thus justify Judge Hand's refusal to graft onto copyright the patent-seeker's duty to research the nation's available documents.

These notions rest on seat-of-the-pants intuition. But we have no better information, and judicial decisions cannot await scientific or quantitative publications on the topic. Lacking data, our best guess is that copyright is right to reject patent law's novelty requirement.

Likewise, copyright judges have correctly rejected simple importation of patent law's requirement of nonobviousness. Copyright does not aim to stimulate the creation of things that are not conceptually obvious. The facts in Bell (which Judge Frank ignored in relevant part) perfectly illustrate the wisdom of rejecting the nonobviousness requirement. The district court stressed that the mezzotint method "is a tedious process requiring skill and patience and is, therefore, rather expensive compared with modern color photographic processes" of the sort used by defendant Catalda Company. The district court's wearying account takes hundreds and hundreds of words to explain the details of the process.

After reading about the effort of its creation, one can well believe that a mezzotint of Pinkie illustrates the public goods prob-

billions of pages of copyrighted material . . . . [Authors] cannot read all the copyrighted literature in existence (in all languages, and including unpublished works!) in order to ensure that [they have] not accidentally duplicated some copyrighted material.

Bell, 191 F2d at 102 ("The defendants' contention apparently results from the ambiguity of the word 'original.' It may mean startling, novel or unusual, a marked departure from the past. Obviously this is not what is meant when one speaks of 'the original package,' or the 'original bill' . . . . [N]othing in the Constitution commands that copyrighted matter be strikingly unique or novel.").

74 F Supp at 975.
lem that arises in the absence of copyright property protection. Bell had to decide whether to invest in a method of creation that was expensive to undertake and vulnerable to copying by relatively cheap (but possibly lower-quality) photographic methods.\textsuperscript{106} Without an assurance of protection against free riders like Catalda, Bell might never have bothered to mezzotint \textit{Pinkie}—in which case lovers of old English portraiture would have to forgo their mezzotints for reproductions of possibly poorer quality or for trips to southern California to see the original in the Huntington Library. The case for copyright protection here is classical. That the mezzotint is obvious, in the sense of an unimpressive research insight, is irrelevant. Consumers in this situation wanted copyright law to offer Bell the incentive he needed to make the product they demanded. Copyright law shrewdly declines obvious as a synonym for original.

Rather, copyright law should look to the more general role the nonobviousness requirement plays in patent law. Judges ought to use the originality requirement to allow competitors to get some inventions for free. The requirement can liberate from copyright protection (and its consequent high prices) creations so easy to make that they do not require its special bait of exclusive property protection. Courts would thereby reserve copyright's exclusivity to cases that demand it, giving consumers the benefit of competitive prices in cases that do not.

Copyright courts, then, should define as original any work whose creation requires enough effort to deter the creative act absent the copyright's exclusive promise. It is not essential that effort be incurred in terms of actual dollars. Bell apparently contracted with others for the mezzotints, but nothing should change if he himself had done the work in his spare time and on borrowed equipment. The crucial question remains the same: Is the creation easy enough that considerations other than copyright protection suffice to motivate it, or is copyright's incentive a decisive condition of the creator's investment? If the former, then courts can declare open season on the work of authorship without imperilling the future supply of such new creations, thus giving consumers low prices from copiers. If the latter, then judges err to leave Bell's work open to Catalda's free-riding because they impair the incen-

\textsuperscript{106} Bell, 74 F Supp at 975. Compare 74 F Supp at 977 ("Of course, the defendants could have gone directly to the old masters and photographed them, but this would have involved the transportation of the photographic equipment, obtaining permission from the galleries, and in some cases, entry into enemy territory in time of war, not then possible.").
tive of future art reproducers to create the copies that consumers demand.

2. Allocating the burden of proof.

The proposal thus is to define "original" as "requiring an investment in creation that would not occur without copyright protection." This proposal orients the law to its objective but reduces the ultimate issue to state of mind, raising difficult issues of proof. Courts will rarely have access to reliable evidence about a particular author's subjective willingness to create without copyright protection. Well-represented plaintiffs will hold opinions that are both favorable to their own cases and difficult for defendants to test directly. Subjective inquiry thus promises no easy resolution of the issue that the patent analogy makes material.

In general, patent law responds to this evidentiary problem by seeking evidence from the creator's peers, and copyright law should adopt the same approach. When defendants claim that the plaintiff's work is not original, copyright law should look for evidence of the probable attitudes of persons having ordinary skill in the art to which the subject matter pertains. It should ask for proof about whether these ordinary experts believe that copyright protection would have been superfluous to them, had they considered attempting the work of authorship at issue. If copyright would have been superfluous, then judges ought to withhold copyright protection from the plaintiff's work on the ground that it is insufficiently original. Alternatively, if they would have created only with copyright protection, judges ought to declare the subject matter original enough for copyright law—even if it is aesthetically jejune or contains no substantial variation.

The most pressing matter is to allocate correctly the burden of proof. When courts wonder whether copyright protection is important to assure the creation of works of the kind at issue, many factors can become relevant. Authors might create for a host of other and sufficient reasons. A common belief is that artists create solely because their genius drives them to it, but this explanation seems hopelessly romantic. Who can say that even Mozart, who sometimes composed furiously for patrons without any prospect of copyright protection, would not have written even more had the return been higher? Or perhaps extra income from copyright royalties would have eased his circumstances, leading him to golf in-

\[\text{Note 95\textsuperscript{107}}\]

\[\text{See generally Landes and Posner, 18 J Legal Stud at 329-33 (cited in note 72).}\]
stead of his *Requiem*. The case of the driven genius immune to financial incentives seems too speculative to treat it as the norm for creation of works of authorship. A safer stance is to assume that creators are generally interested in cash and respond to its lure, perhaps leaving the door open for a contrary showing in the unusual case.

A different and more substantial alternative incentive is the lead-time or first-mover advantage. This idea supposes that copyright incentives are icing; the cake is the financial benefit of beating competitors to market and enjoying a period of monopoly not legally enforced but nonetheless inevitable, alluring, and sufficient. By itself, the prospect of being first to market can induce people to create many innovations—like new industrial and furniture designs, for which exclusive protection usually is unavailable.109

Creators might also receive support from sources other than the exclusivity of a property right, as do university scholars whose research and publication receives direct public funding and as do authors directly employed by the federal government.110 Or free riders may be unable to duplicate a level of quality that the plaintiff’s customers believe is decisive. It may have been, for example, that Catalda’s photographic copies could never have captured Bell’s mezzotint preservation of “the softness of line which is characteristic of the oil painting.”111 Were a court confident that the quality of Bell’s prints sufficed to assure him a market against Catalda’s inferior photographic copies, that court could conclude that copyright protection was a superfluous incentive. These factors all depart from a literal definition for the word “original,” but all are relevant to its definition as “requiring a conditional investment.”

Courts should be modest, however, about their ability to second-guess an author’s willingness to create without the promise of copyright. If judges review authors’ motivation too aggressively, future authors may come to believe that the myopic hindsight of a judge will render their needed copyright protection risky or unlikely. The basic purpose of copyright is to provide an incentive; the originality doctrine provides a second-order correction. An overly aggressive second-order correction may well damage the

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110 Compare 17 USC § 105 (no copyright protection for works of the United States Government).
111 *Bell*, 74 F Supp at 975. See also text at note 58; Landes and Posner, 18 J Legal Stud at 329 (cited in note 72).
first-order policy that it seeks to perfect. It can be a poor bargain for consumers to gain lower prices on existing goods at the cost of losing future new ones.

Any defendant claiming that the plaintiff’s work is unoriginal therefore should be required to prove that persons having ordinary skill in the art believe they would have produced work like the plaintiff’s without the incentive of copyright protection. Where the defendant cannot muster the usual preponderance of the evidence on the issue, courts should presume that the plaintiff’s work is indeed original and thus covered by copyright. This allocation of the burden of proof would assure future authors that the fate of their property rights lies with a jury of their peers rather than with hypercritical judges.

3. Defining the relevant evidence.

Having stated the relevant issue and allocated the burden of proof, it might seem appropriate simply to declare that the remaining issue is a factual question to be resolved by a battle of competing experts. In this battle, the experts would testify whether copyright would have been a necessary incentive to induce their own creation of the work at issue. This ultimate proof will be necessary to resolve some cases. But it is often possible to avoid this expensive and protracted process, for judicial common sense can resolve many cases short of trial. Consider four illustrations.

a) Painstaking reproductions. Bell v Catalda reached the right result for consumers, although not for any reason that Judge Frank gave. As the district court described it, the mezzotint process does not seem so easy that a court could be confident that future parties in Bell’s position would create mezzotints without the prospect of copyright. Even without expert opinion, the court’s conclusion that the mezzotints were original therefore seems entirely correct. The same evaluation logically extends to any art reproduction of an extremely painstaking nature, whether or not the reproduction contains variations.112

b) Incidental by-products. The creation at issue in Toro Co. v R & R Products Co.113 was a numbering system for replacement parts. This work flunked the originality test, again without

112 Compare Alva Studios, Inc. v Winninger, 177 F Supp 265 (S D NY 1959) (upholding copyright on reduced-scale, museum-quality copies of Rodin’s sculpture Hand of God).
113 787 F2d 1208 (8th Cir 1986).
recourse to expert opinion. The court concluded that “[t]he arbitrary assignment of randomly chosen numbers to a particular replacement part does not evince enough authorship for copyright protection.” A judge untutored by experts could be confident that the absence of copyright protection would not diminish the number of such systems created in the future. It is likely that people create such systems incidentally, as an easily made by-product of a manufacturing enterprise. Without fear of losing such future creation, the Toro court thus was right to conclude that the parts numbering system was insufficiently original for copyright protection. In liberating this work of authorship for use by rivals, the court served consumers by allowing free riding that reduced their costs without any threat of lost future innovation.  

c) Unpublished correspondence. The same analysis and conclusion apply to a third, more significant general category of works: personal correspondence. The ancient dogma is that copyright law gives authors the power to stop others from verbatim copying of the contents of ordinary letters, even though the author gives the physical paper away to the letter’s recipient. This rule has caused no end of confusion about the fair use of the correspondence that courts will allow to free riders. Next to the idea/expression doctrine, fair use is the most important copyright defense. Under certain circumstances it entitles free riders to copy a protected text without liability. In a vague way, the statute codifies the vague cases that set forth this defense. Including letters within copyright protection consigns the freedom of historians and biographers to quote their subjects to the uncertain contours of

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114 Id at 1216.  
115 Compare Michael L. Katz and Carl Shapiro, Network Externalities, Competition, and Compatibility, 75 Am Econ Rev 424 (1985) (consumers benefit from permitting widespread use of products for which the user’s utility increases with the number of other agents consuming the good).  
116 See, for example, Brown and Denicola, Cases on Copyright at 14 (cited in note 13) (citing Sir James Stephens, Digest on the Law of Copyright, annexed to the Report of the Royal Commission on Copyright, 1878, Cmd 2036, lxv); id at 15 (citing Baker v Libbie, 210 Mass 599, 97 NE 109 (1912)).  
fair use. The doctrine thus has churned an earnest debate about the proper scope of the fair use of letters.\textsuperscript{119}

The reasoning of this Article suggests that courts should instead reconsider the hoary premise that copyright covers letters in the first place. Common sense tells us that copyright normally is irrelevant to people's decisions to write letters to each other. We can tell that hope of future publication royalties does not affect the decision to grasp the pen in these cases because authors willingly mail their only copy away to an unknown fate.\textsuperscript{120} Nor can copyright be justified by the argument that authors write more freely when secure in the knowledge that copyright will keep their thoughts secret. Copyright never has done such a thing. Even though copyright law has said that it covers letters, it has simultaneously maintained that others remain free to paraphrase the letters' substance.\textsuperscript{121} And copyright never has protected an author by barring the possessor of a letter from showing the original to those it wounds or embarrasses the most.\textsuperscript{122} In a case where we thus can be sure that the incentive of copyright is generally irrelevant to the decision to create, we ought to dispense with copyright as superfluous.

The conclusion that copyright ought not cover letters perhaps deserves two exceptions, at least in theory. First, some unusual authors might indeed have kept copies of all their letters with an eye towards future publication. Such plaintiffs might wish to try to document that copyright did offer a crucial incentive in their particular cases. The courts could permit such exceptional showings in such exceptional cases. Second, as of the 1980s, more people have begun to write their correspondence on computers with ever larger storage disks, casting doubt on the presumption that mailing the envelope signals an author's willingness to surrender control of personal correspondence. These cases, however, remain exceptions and do not support current copyright doctrine's initial protection


\textsuperscript{120} Robert Boyd first showed me this logic.

\textsuperscript{121} 17 USC § 102(b); see also cases cited in note 117.

\textsuperscript{122} See 17 USC §§ 106(5), 101 (copyright gives a right to control only public display, the statutory definition of which includes the involvement of "a place open to the public" or "a substantial number of persons"). Compare Samuel D. Warren and Louis D. Brandeis, \textit{The Right to Privacy}, 4 Harv L Rev 193, 205 (1890) (famous survey of copyright leading to purported discovery of a general common law right "to be let alone"), with James H. Barron, \textit{Warren and Brandeis, The Right to Privacy: Demystifying a Landmark Citation}, 13 Suffolk U L Rev 575, 607-21 (1979) (Warren and Brandeis's non-copyright tort of public disclosure of private facts notable today primarily for its insignificance).
of all correspondence, whatever the date or circumstances of its origin.

d) Sizable creative investment. This definition of originality also suggests criticisms of the Seventh Circuit’s decision in Gracen. That court gave reason for concern that its denial of copyright protection would lead to reductions in future innovation. The defendant’s actions suggested that the plaintiff’s work had been difficult to create. For example, Bradford Exchange’s resort to a contest to obtain an image evocative of The Wizard of Oz implied that the plate was harder to paint than one might imagine. The contest enticement might have made copyright protection redundant, but there is no reason to believe that it necessarily did so. One might also argue that the holding will have no effect on future output because the lack of originality was only an alternative holding, or because the isolated holding will remain unknown to the relevant creative community. But the government plays a risky game with creators when it offers them the bait of copyright generally but hopes they do not notice when it reneges in individual cases. In short, Gracen evidently did make a sizable creative investment, and judicial common sense offers no ground for supposing that she would have done so had she known that copyright would not protect it. Gracen thus seems to disserve the interests of consumers by reducing the future enticement for producers to create costly renditions of popular culture. The conclusion does not depend on some resolution of clashing expert opinion.

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These four illustrations show that to define “original” as “requiring a conditional investment” does not make trial inevitable. By suggesting changes in case outcome as well as rationale, two of the examples also illustrate the practical potential of the proposal at issue. In some cases, however, defendants would be able to offer expert evidence sufficient to overcome the presumption of originality. In these cases defendants would create a genuine dispute about the material issue of whether those with ordinary skill in the art indeed believe that the incentive of copyright protection would have been unnecessary to induce their own production of the plaintiff’s work of authorship.

Experts never solve everything. Nonetheless, on balance the

123 See text at notes 67-73.
124 Gracen, 698 F.2d at 303-04.
use of expert testimony remains a sensible way for courts to resolve the question of originality. One problem, however, is the risk of error in judging the plaintiff’s motivation by relying on others’ opinions, expert or not. This problem is more apparent than real. An incentive theory of copyright emphasizes ex ante stimuli. When the aim is to maintain the trust of the creative community, the analysis appropriately focuses on the typical future author and not on the possible idiosyncrasies of the plaintiff.

Another problem is deciding who is an expert. In easy cases, the relevant creator will have no special expertise at all. Laypersons will then be able to evaluate the incentive question themselves. More typically, however, the issue will force courts to ponder who in the future will regard the plaintiff as like themselves. This question inevitably will turn on the particulars of the case at hand. Similarly, experts predictably disagree when the lawyers choose them. The appropriate response to this problem is not to abandon the use of experts altogether, but to ensure the correct allocation of the burden of proof.

Suppose a copier claims that Mickey Mouse deserves no copyright protection because Walt Disney first drew him in seconds flat. If we had truly reliable evidence that Walt Disney was a rich and compulsive genius who would have drawn and published as many good cartoon characters with copyright protection as without, then consumers really would benefit from a legal declaration that his creations were free for others to take. But trusty evidence on this score is nearly impossible to imagine, let alone find. Speed does not an easy creation make. Years of training and false starts may be the prerequisite for a brilliant burst of creativity. The best course is to presume that creators rely on the prospect of copyright royalties, but leave the matter open to challenge by a defendant who may care to investigate by asking those with ordinary skill in the art. I cannot draw even a respectable happy face, but I would be surprised if experts generally believed that consumers would get just as many cartoon characters without the bait of copyright as with it. This method yields no determinate answer, just a sensible question to ask and a sensible method of investigation.

In attempting to define what counts as original, copyright law has wound itself into a tangle. Patent law offers the knife for the knot: the understanding that patent law’s nonobviousness require-

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129 Compare Walt Disney Productions v The Air Pirates, 581 F2d 751 (9th Cir 1978) (Mickey protected).
ment uses experts to identify cases where withdrawing protection does not impair incentives to create. Copyright law ought to imitate this sensible policy by asking judges similarly to identify works that are so easy or routine to create that they would arise without the need for copyright protection. Unless they can be sure that copyright's incentive is unnecessary, however, courts serve consumers best by preserving the copyright prize.

C. Conditional Creation, Not Idea and Expression

Under the doctrine of the dichotomy of idea and expression, defendants enjoy a legal right to copy a plaintiff's idea but are infringers if they take the expression. All will agree that the publicly available idea is some more general version of the privately owned expression. The problem is how much more general. Current doctrine offers us no method, even in principle, to provide this critical answer. This section proposes such a method. The first step is to abandon as misleading any concern with the literal meanings of idea and expression and instead to turn again to patent law for a functional touchstone. Patent law accomplishes the same function as does the law of idea and expression, although through a different bureaucratic procedure. This section surveys the fields' relevant similarities and differences to develop a method for generating conclusions as to whether a taking is idea or expression.

The proposed method requires courts to compare the parties' works in order to define as precisely as possible the thing the defendant took from the plaintiff. The court should then evaluate that thing: Was it original to the plaintiff, or did the plaintiff instead borrow that thing from preexisting cultural tradition familiar to those in the field? The plaintiff should win in the former case, but not in the latter. The method demonstrates that Nichols and Sheldon were rightly decided. This section concludes by applying the method to two sample copyright problems: systems and processes, and fact works.

1. A patent examiner's view of idea and expression.

Patent doctrine compels creators to define their innovation precisely when applying for a property right. This application, once approved by the Patent and Trademark Office, becomes the patent itself. It begins with a description of the invention and ends with a section stating, "I claim . . . ." These final patent claims, like the metes and bounds of a land claim, mark off precisely what the inventor owns.
The claims are not underinclusive. Inventors surrender to the public any aspect of their invention that they fail to appropriate in the claims. This awful prospect induces inventors (and lawyers who fear malpractice liability) to write claims that include every original, new, and nonobvious feature of the invention. Neither are patent claims overinclusive. The PTO checks and certifies that fact. The agency assigns each patent application to a specialist in the relevant technology, such as mechanical, electrical, or chemical engineering. This patent examiner's job is to compare the application with the prior art to ensure that the claims do not appropriate anything that already existed or that would be obvious to an ordinary expert in light of the prior art. The examination process may take years\(^\text{127}\) and usually requires several rounds of negotiation between the examiner and the applicant. The process ends when the examiner either rejects the application altogether or approves a final version of the claims as free from the error of overinclusion.

Assessments differ as to the quality of this bureaucratic review. No one doubts, however, that the process is supposed to produce a reliable document that defines with great exactness the thing to which the inventor has exclusive rights. Inventors then can enforce the rights this document promises by suing for infringement.

In sharp contrast, copyright law hands out rights without any similar inspection of the work or any definition at all of the creators' particular rights. Its protection is almost mystically automatic; even without need for an application, it springs into existence as soon as the work is "fixed in any tangible medium of expression."\(^{128}\) A drawback offsets this procedure's Doric simplicity: no one really knows what it means. One can petition the Copyright Office to register a copyright, but acceptance by the Registrar of Copyright is perfunctory, except for some particular classes of works where the Copyright Office has promulgated a policy against recognizing copyright. In a usual case—say, a novel—one would not expect the Registrar of Copyright even to crack the volume, much less to read and evaluate it. Not until authors conclude a suit for copyright infringement does any government official give them

\(^{127}\) See, for example, Edmund L. Andrews, Long Delays Seen in Patents for Genetic Engineering, NY Times D1 (July 19, 1990) ("[C]ompanies must wait an average of four years to obtain a patent in genetic engineering . . . . For all other aspects of biotechnology . . . the delay averages three years. By comparison, the waiting period for all types of patents is only 18 months.");

\(^{128}\) 17 USC § 102(a).
a bill of particulars about their rights. The government official
then is a federal judge, and the detailing of rights proceeds under
the banner of the idea/expression dichotomy.

By ignoring what judges say about the abstractions test or the
merger doctrine and instead concentrating on functional resem-
blance to the patent model, it is possible to give useful analytical
structure to the confusion of ideas and expressions. The key is to
realize that the idea/expression dichotomy provides the mechanism
for copyright to provide what patent does: specification of the
metes and bounds of the creator's rights. Copyright accomplishes
this same function in a different procedural context and to a more
modest extent, for reasons that Part IV will examine. For now, I
simply accept the fact of these procedural differences, and observe
that patent examiners seek to ensure that patent claims represent
a globally accurate statement of the extent and limits of inventors'
achievements. In contrast, a court overseeing a copyright case aims
to decide a contest between only the two parties before it.

The issue of idea and expression arises only if the judge de-
cides (or assumes arguendo) that the defendant indeed has copied
from the plaintiff's work. Defendants who have obtained their text
elsewhere or through independent creation win—period. We have
seen that copyright law imposes on defendants no duty to research
the nation's recorded literature. Because proof of independent
creation is a complete defense, assume for purposes of the follow-
ing discussion that the defendant indeed has copied something
from the plaintiff.

We can appreciate the way in which the idea/expression doc-
trine mimics patent law if we abandon our concern about the lit-
eral definition of these words and instead adopt a two-step analy-
sis. The first step is for the court to define as specifically as
possible the thing that the defendant has taken from the plaintiff.
Competent counsel should be of great assistance, but this step in-
evitably imposes a tedious burden on the court. It must lay the
plaintiff's text next to the defendant's and study both until each is
familiar ground. The court then must write down the most detailed
description possible of the features that the defendant took from
the plaintiff.

Having thus defined the thing that the defendant took, the
second step is to decide whether that thing is original to the plain-
tiff, employing the definition developed in the preceding section.

129 See text at notes 99-103.
That is, to get that thing the defendant took, did the plaintiff invest costly creative effort that presumptively relied on the promise of copyright? If so, judgment properly goes to the plaintiff, because, in conclusory terms, the defendant has taken the plaintiff's expression. Or did the plaintiff get that thing by copying it effortlessly from existing and available sources, or by otherwise responding entirely to incentives other than copyright? If so, judgment properly goes to the defendant because, again stating it in conclusory terms, the defendant took only the plaintiff's idea.

The classic opinions of Nichols and Sheldon illustrate these steps and provide a crucial qualification. Judge Hand wrote neither decision according to this outline, but careful attention to his language and logic reveals that both embodied the essence of the method.

2. The example of Nichols.

Judge Hand started his opinion in Nichols by defining as specifically as possible what the defendant took from the plaintiff. He compared Nichols's play Abie's Irish Rose with Universal's movie The Cohens and the Kellys and concluded that Universal had taken two things from Nichols: characters and plot. Beginning with the characters, this comparison permitted Judge Hand to specify at what level of abstraction Universal copied Nichols's work:

There are but four characters common to both plays, the lovers and the fathers. The lovers are so faintly indicated as to be no more than stage properties. They are loving and fertile; that is really all that can be said of them, and anyone else is quite within his rights if he puts loving and fertile lovers in a play of his own, wherever he gets the cue.\(^{139}\)

This passage identifies the level of Universal's taking: "loving and fertile lovers." By using this concise and revealing phrase, Judge Hand in effect concludes that, at this level of abstraction, Nichols had borrowed these "stage properties" from tradition rather than creating them herself.

Judge Hand similarly compared Nichols's and Universal's renditions of the Jewish and the Irish fathers to determine precisely what Universal took of them from Nichols. After mentioning the dissimilarities, the judge summarized and evaluated the features they shared:

\(^{139}\) 45 F2d at 122 (emphasis added).
Both [Nichols’s and Universal’s Jewish fathers] are grotesque, extravagant, and quarrelsome; both are fond of display; but these common qualities make up only a small part of their simple pictures, no more than any one might lift if he chose. . . . [The defendant’s Irish father does not share the plaintiff’s religious fanaticism and patriarchal pride.] For the rest [the defendant’s Irish father] is only a grotesque hobbledehoy, used for low comedy of the most conventional sort, which any one might borrow, if he chanced not to know the exemplar.\textsuperscript{131}

Again Judge Hand concluded that Nichols was claiming an exclusive right for something that she had obtained by copying tradition rather than by creating through personal investment. The judge’s essential decision was that, at the level of Universal’s taking, Nichols’s characters were stereotypes rather than original creations:

It is indeed scarcely credible that [Nichols] should not have been aware of those stock figures, the low comedy Jew and Irishman. The defendant has not taken from her more than their prototypes have contained for many decades. If so, obviously so to generalize her copyright, would allow her to cover what was not original with her.\textsuperscript{132}

Judge Hand offered a similar analysis of Universal’s use of Nichols’ plot:

The only matter common to the two is a quarrel between a Jewish and an Irish father, the marriage of their children, the birth of grandchildren and a reconciliation.

If the defendant took so much from the plaintiff, it may well have been because her amazing success seemed to prove that this was a subject of enduring popularity.

. . .

A comedy based on the conflicts between Irish and Jews, into which the marriage of their children enters, is no more susceptible of copyright than the outline of Romeo and Juliet.\textsuperscript{133}

For the first time in the years that she had owned the copyright on her successful play, Nichols finally got some authoritative
official to give her what patent owners get from the start: a useful
definition of what she owned. Judge Hand gave the crucial details,
but not in the way a patent states a global definition of the cre-
tor’s achievement. His analysis resolved the contest only at the
level of Universal’s taking. Assessed at that level, Hand decided
that Nichols herself was a borrower rather than a creator. Nichols
had not made the things she sought to claim. Just as patent exam-
iners disserve consumers if they grant rights to things that are not
new, so too federal judges would achieve only consumer harm by
extending copyright to a traditional portrayal of tired stereotypes.

The analysis from patent law thus describes Judge Hand’s
treatment of the Nichols case.134 Nichols does, however, present a
further complexity. Judge Hand made plain his confidence that, at
the level at which Universal took them, Nichols’s plot and charac-
ters were not new. He also repeatedly stated his suspicion that
Nichols knew of this prior art and had borrowed it rather than
inventing it herself. Yet Judge Hand did not deign to document his
claims, such as the one he made about what the characters’ “proto-
types have contained for many decades.” Indeed, he went so far as
to assume the contrary: that Nichols had “devised her figures out
of her brain de novo.”135 These points seem to undermine the con-
gruence of Hand’s decision with the analysis from patent law that I
present. If we accept two points, however, Judge Hand was right to
rule against Nichols without specific proof either that her charac-
ters and plot—at the level at which Universal took them—were
old, or that Nichols indeed had not created these things herself.

First, Judge Hand evidently regarded himself as “a person
having ordinary skill in the art to which the subject matter per-
tains.”136 Unlike many federal judges, Hand was at ease in declar-
ing a type of plot to be of “enduring popularity.” He was not shy
about concluding that literary characters were “stock figures” or
“stage properties,” and that these characters had qualities that
were “common,” that other literary works “have contained for
many decades,” and for which other works have provided “the ex-
emplar.” Later, in Sheldon, Judge Hand would comment on the
divergence of a plot from “the classic canon of tragedy”; would
judge one plot device to be “the same dramatic trick” as another;
and would dismiss the studio’s interpretation of its own plot detail

134 See also Landes and Posner, 18 J Legal Stud at 349-50 (cited in note 72) (setting
forth an analysis similar to that of Nichols).
135 45 F2d at 122.
136 See text at note 107.
on the ground that this account would imply “an impossible de-
nou[e]ment on the screen for the heroine . . . .” These confident
judgments bespeak both familiarity with literary tradition and the
judge’s faith in his own powers of literary analysis. By no accident
is the very prose of the opinion cultured and mannered through-
out. His style and self-confidence have impressed generations of
readers, even though his stated reasoning was nearly free of con-
tent. Judge Hand trusted his literary faculties to the point of de-
crying rather than embracing the assistance that other experts
would offer him.

Second, Hand charged Nichols with a level of expertise equal
to his own, whether or not she actually held it. He openly sus-
pected that she was familiar with the same literary tradition, yet
held that nothing would change even if she were not. This posture
was sensible and consistent, as Judge Hand claimed in Nichols,
with his earlier opinion in Dillingham. Patent law’s novelty re-
quirement holds inventors responsible for recorded but obscure
knowledge available only through careful library research. In
Dillingham, Hand refused to impose this duty of library research
on authors as a condition of their valid copyright. In
Dillingham’s wise refusal does not mean, however, that copyright judges must
suppose that authors know nothing of their profession. To so sup-
pose would leave authors the power to claim rights over familiar
and traditional material that they incorporate in their works, sim-
ply by denying that they knew the material was familiar. It is diffi-
cult to dispute a denial of subjective awareness. Usually only the
author can say what is and is not in that author’s head. Judge
Hand thus was right to make nothing turn on Nichols’s subjective
knowledge and, in effect, to look instead to what a person of ordi-
nary skill in the art would know without the benefit of library
research.

The Nichols decision thus illustrates the guidance that patent
law offers out of the morass of idea and expression; it also offers
sensible instruction on the level of knowledge that copyright courts
ought to ascribe to authors. Judge Hand’s later Sheldon opinion
does the same.

137 Sheldon, 81 F2d at 55.
138 See note 13.
139 Nichols, 45 F2d at 122 (“Neither my brothers nor I wish to throw doubt upon the
doctrine of that case [Fisher v Dillingham], but it is not applicable here.”).
140 See text at notes 85-88.
141 Dillingham, 298 F at 150. See text at note 99.
3. The example of *Sheldon*.

*Sheldon* arose because playwrights claimed that Metro-Goldwyn's movie *Letty Lynton* infringed their earlier play *Dishonored Lady*. Patent law suggests that a copyright court should first compare the two works at issue in order to define the precise thing that the defendant took from the plaintiff author. Judge Hand did that in *Sheldon*. Patent law suggests that a copyright court should then inquire about the origin of the precise thing the defendant took, to decide whether the plaintiff had laboriously created it or instead had effortlessly copied it from preexisting sources. Judge Hand also performed this analysis in *Sheldon*. He concluded that Metro-Goldwyn had infringed Sheldon's copyright, the opposite result from *Nichols* but an entirely consistent treatment of crucially different facts. As in *Nichols*, the *Sheldon* opinion did not expressly identify or follow these steps, so one must scout their tracks with care.

Of the two steps, the first is easier to see in *Sheldon*. The task of defining the exact thing that Metro-Goldwyn took from plaintiff Sheldon was complex. There were four relevant texts. Preceding, and thus conceivably inspiring, the Metro-Goldwyn movie were not only Sheldon's play, but also an account of a factual episode from the mid-nineteenth century and, sparked by this history, a novel by a writer named Lowndes. All four stories variously recounted a young woman's affair with one man and later engagement to another, followed by an unsuccessful criminal prosecution of her poisoning of the persistent and threatening first suitor. Judge Hand detailed the ways in which the character of the film's protagonist followed that of the play's and differed from the characters in the historical account and Lowndes's novel. He did the same for three key scenes common to the play and film. When he was done, he had written four densely packed paragraphs that precisely stated the thing that the filmmakers had taken from the playwrights. The very detail necessary to his account suggests that the filmmakers had taken from Sheldon something of complex originality rather than, as in *Nichols*, something simple and familiar.

The second step renders just this judgment of originality. The opinion contains decisive evidence to support Judge Hand's finding that the plaintiffs had created from scratch, not copied from tradi-
tion. Some of Judge Hand’s evidence was specific. The judge observed that the playwrights took only “the merest skeleton” from the historical tale, and that they built for themselves “[t]he incidents, the characters, the mis en scene, [and] the sequence of events . . . .”\textsuperscript{144} Regarding the specific character of their protagonist, the judge demonstrated that the playwrights created features that neither the historical event nor Lowndes’s novel contained, and that the filmmakers had taken those features.\textsuperscript{145} He also recounted that in the film “the threat scene is carried out with almost exactly the same sequence of event and actuation [as in the play]; it has \textit{no prototype} in either story or novel.”\textsuperscript{146}

Beyond these specifics, Judge Hand reinforced the conclusion of originality with statements of a revealingly general character. Judge Hand commented that “[b]orrowed the work must indeed not be, for a plagiarist is not himself pro tanto an ‘author . . . .’”\textsuperscript{147} The presence of this statement in a ruling for Sheldon implies a premise on the part of the court that plaintiff Sheldon indeed had not borrowed, an attitude generally consistent with the court’s treatment of the specifics of the two works.

More tellingly, Judge Hand announced that Metro-Goldwyn had “filled the record with earlier instances of the same dramatic incidents and devices,” but he airily dismissed these earlier works as irrelevant because “the plaintiffs did not use” them.\textsuperscript{148} This casual conclusion is crucial to the patent perspective on the case. From the patent perspective, Judge Hand’s conclusion is mysterious; the judge never explained how he knew that Sheldon and co-authors had created independently.

Yet this lack of explanation is also telling; it suggests that Judge Hand once again must have thought the matter obvious. Judge Hand apparently considered Metro-Goldwyn’s “earlier instances” to be like Landon’s obscure book of piano exercises,\textsuperscript{149} a library find beyond the knowledge of an ordinary expert in the field of scriptwriting and thus not something a judge can expect.

\textsuperscript{144} Id at 50.
\textsuperscript{145} Id at 55 (“Neither Madeleine Smith, nor the Letty of the novel, were at all like that . . . .”).
\textsuperscript{146} Id (emphasis added).
\textsuperscript{147} Id at 54.
\textsuperscript{148} Id at 53 (“We are to remember that it makes no difference how far the [plaintiffs’] play was anticipated by works in the public demense which the plaintiffs \textit{did not use}. The defendants appear not to recognize this, for they have filled the record with earlier instances of the same dramatic incidents and devices, as though, like a patent, a copyrighted work must be not only original, but new.”) (emphasis added).
\textsuperscript{149} See text at note 100.
everyone in the discipline to know. He apparently thought these "earlier instances" differed decisively from Nichols's "stage properties" and "stock figures," which he regarded as familiar tradition. He felt comfortable making this classification, without consulting experts in the field, but after silent introspection. In short, this breezy conclusion provides evidence that Judge Hand acted as though he himself were a literary expert. For Metro-Goldwyn's sake, we should hope that Judge Hand was indeed the expert he evidently thought himself to be. Federal judges lacking Judge Hand's self-assurance will wish for more evidence and certainly more discussion on the vital matter of whether the plaintiffs created or copied the thing that the defendant took from them.

In both Nichols and Sheldon, Judge Hand functioned like a patent examiner concerned about consumer welfare. Creators had claimed that free riders copied their intellectual property. Judge Hand responded by investigating whether the supposed creators had invested much to create the thing the copiers had taken. The first step was to define the thing; the second was to assay its originality. In Nichols, this analysis showed that the plaintiff herself was a cultural free rider rather than one who had invested original creative effort. The court appropriately refused to grant copyright protection, for authors do not need copyright to induce them to copy a well-known plot or simply to reuse someone else's familiar character. It is so easy. In such cases, copyright's exclusivity can only reduce consumer access to old products; it cannot spur the creation of truly new ones.

In contrast, the same analysis of the Sheldon case showed that the plaintiffs had built with their own hands the thing that the defendants took. Had the court failed to protect this thing, the prospect of unmitigated free-riding might well have deterred future authors from undertaking costly creative efforts. Consumers thus should approve of both results, even though they go to opposite parties on superficially similar facts.

As discussed above, even if the plaintiff did create the thing that the defendant took, one must still inquire whether the plaintiff would have done so without copyright protection. If copyright is superfluous to creation, consumers benefit from withholding that legal exclusivity—from even a genuine originator. This concern remains relevant here. Judge Hand properly gave little attention to this larger concern. I have already argued that courts

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180 See text at notes 106-08.
ought to begin with a presumption that copyright is a necessary incentive to prompt any creation that is expensive. Judge Hand did not second-guess the plaintiffs’ willingness to create. The enterprise is hazardous—absent proof by Metro-Goldwyn that Sheldon would have written Dishonored Lady even without the promise of copyright protection.

Nichols and Sheldon illustrate the general analysis that patent law implies for copyright. Nothing limits the use of this general analysis to dramatic works for the stage. It applies whenever the idea/expression doctrine does. We thus have a tool of tremendous use across a great range of copyright problems, from compilations to computers. I limit my illustrations to two decisions more aggressive than Judge Hand’s in second-guessing the need for the copyright incentive.

4. Judicial willingness to second-guess the need for the copyright incentive: Patentable systems and processes.

For more than a century, judges have been denying copyright protection to systems and processes. Usually judges couch these denials in the unhelpful terms of idea and expression. Possession of a tractable method for defining ideas and expressions, however, permits one to excavate these holdings in search of the policy judgment concealed by the metaphysics. This concealed policy judgment is that the creation of new systems and processes is the sort of innovation that benefits from initial library research. Therefore patent protection is appropriate, and patent protection suffices as a production incentive, independent of copyright. Copyright courts thus sensibly have denied copyright protection to the creation of new systems and processes, assigning the problem instead to the PTO. In sum, judges second-guess the need for the copyright incentive when they are satisfied that patent law will handle the matter.

The grandparent of these cases is Baker v Selden. Selden wrote books setting forth what he claimed was a new bookkeeping system that “effects the same results as book-keeping by double entry; but, by a peculiar arrangement of columns and headings,
Baker copied the same system in his own publication and Selden sued him for infringement. The Court ruled for Baker, holding that “[t]he description of the art in a book, though entitled to the benefit of copyright, lays no foundation for an exclusive claim to the art itself.”

According to the incentive theory of patent law, copyright analysis of this problem properly would begin by defining what Baker took from Selden. The Court did compare the two works in this way. The next step would ask whether Selden made that thing through costly investment or simply borrowed it from some other existing source. If the former, Selden ought to win the suit—unless Baker could demonstrate that Selden would have created the thing without the promise of the copyright incentive. The Court ruled for free rider Baker, however, without pausing to inquire whether Selden had made or borrowed the thing Baker took. In terms of the incentive analysis presented here, the Court seemed confident that the promise of copyright was superfluous to any creative effort by Selden. The Court’s reason seemed to be that copyright law need not provide incentives for this sort of creation because patent law already has the problem in hand.

This confidence seems defensible. The creation of a new system of bookkeeping does seem to be an innovation that proceeds most efficiently from initial library research. Accounting sounds like a cumulative discipline in which advances build upon each other in a self-consciously progressive manner. This surmise scarcely is the product of scientific inquiry. But the studied incrementalism of accounting contrasts with the writing of music, plays, and fiction—where judges lack the confidence to insist that creators must begin their work with library research.

Moreover, the Baker Court created coherent innovation policy. In effect, it imposed upon creators of new accounting systems the duty of a literature survey and then assigned to the patent bureau

184 101 US at 100.
185 Id at 105.
186 See id at 100.
187 Id at 102 (“To give to the author of the book an exclusive property in the art described therein, when no examination of its novelty has ever been officially made, would be a surprise and a fraud upon the public. That is the province of letters-patent, not of copyright.”).
188 But compare Nash, 899 F2d at 1540 (“Intellectual (and artistic) progress is possible only if each author builds on the work of others.”).
the particularized task of checking the individual warrant for each inventor's patent incentive.\textsuperscript{159} For well over a century, courts and the patent office indeed have considered new processes to be a fit subject for patents.\textsuperscript{160} Selden himself had applied for a patent on his new process.\textsuperscript{161} The \textit{Baker} Court noted only that his application had been unsuccessful.\textsuperscript{162} This refusal to comment on the patentability of Selden's invention is understandable, for patent law long has contained a variety of ill-defined and poorly justified rules governing the sorts of processes it will protect.\textsuperscript{163} The \textit{Baker} Court logically could elide the questions of the precise nature of these patent rules and whether they make sense. So can I. We both conclude that the copyright law justifiably dumps in the lap of patent law the problem of whether and when to protect systems and processes. This conclusion is limited, but sufficient to justify \textit{Baker}'s result. Congress has codified this judicial judgment. The 1976 Copyright Act denies copyright protection to any "procedure, process, system, method of operation, concept, principle, or discovery."\textsuperscript{164} Conversely, the Patent Act of 1952 directs that "[w]hoever invents or discovers any new and useful process . . . may obtain a patent therefor . . . ."\textsuperscript{165}

\textsuperscript{159} Compare text at notes 84-88.

\textsuperscript{160} See, for example, \textit{Tilghman v Proctor}, 102 US 707, 723 (1880); \textit{Cochrane v Deener}, 94 US 780, 787 (1876).


\textsuperscript{162} 101 US at 104 ("Whether the art might or might not have been patented, is a question which is not before us. It was not patented, and is open and free to the use of the public.").

\textsuperscript{163} See, for example, \textit{Ex Parte Turner}, 66 Official Gazette 1593, 1894 CD 36 (Decisions of the Commissioner of Patents) ("A patentable process must accomplish some change in the character or condition of material objects; hence a plan or theory of action which, if carried into practice, could produce no physical results proceeding direct from the operation of the theory or plan itself is not an art within the meaning of the patent laws.") (emphasis added); \textit{Halliburton Oil Well Cementing Co v Walker}, 146 F2d 817, 821 (9th Cir 1945) ("mental steps, even if novel, are not patentable"). But see \textit{Paine, Webber, Jackson & Curtis, Inc. v Merrill Lynch, Pierce, Fenner & Smith, Inc.}, 564 F Supp 1358, 1369 (D Del 1983) (upholding patent on data processing method for Merrill Lynch's Cash Management Account). Compare \textit{Diamond v Diehr}, 450 US 175, 186 (1981) ("an algorithm, or mathematical formula, is like a law of nature, which cannot be the subject of a patent"); with United States Patent No 4,744,028 (May 10, 1988) (in effect patenting Karmarkar's algorithm for solving linear programming problems); see Tullock, \textit{Intellectual Property}, in Kryster, ed, \textit{Direct Protection of Innovation} at 178 (cited in note 80) ("My own proposal in the past has been simply to extend the intellectual property which we call a patent to as many fields as possible. Currently, the exact border between patentable and unpatentable objects is a somewhat irregular one and is frequently changed by court decisions.").

\textsuperscript{164} 17 USC § 102(b) (emphasis added).

\textsuperscript{165} 35 USC § 101 (emphasis added). See also id at § 100(b) ("The term 'process' means process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.").
In sum, *Baker* and its offspring withhold copyright incentives for creating new systems and processes. The Court never suggested that Selden came by his accounting system easily. The danger is that excluding costly creations from copyright protection will discourage creators from bothering to undertake such socially useful creation in the future. Copyright's response is to rely on patent law to solve this problem. Patent law supplies the right spur; library research seems like an important step in the process of creating new systems and processes, and—unlike copyright—patent law does hold creators responsible for such research. Moreover, patent law long has demonstrated its willingness to reward the creation of systems and processes that it deems appropriately qualified. And Congress has stamped its general approval on this judicial allocation of responsibilities. To the question of how copyright law can abandon support for new processes without injuring consumers, then, the short answer is that patent law has the situation covered.

5. Judicial willingness to second-guess the need for the copyright incentive: Fact works.

Judges also have been willing to second-guess the need for the copyright incentive for the category of fact works. Two significant decisions illustrate this law: *Hoehling v Universal City Studios* and *Nash v CBS*. Both opinions submerged a highly debatable judicial willingness to dispense with the copyright incentive. Neither case successfully defended its result. There is reason to believe, moreover, that both results are simply indefensible in incentive terms.

The *Hoehling* case concerned accounts of the zeppelin Hindenburg's fiery demise in 1937. The Second Circuit said that author Hoehling conducted "exhaustive research" about the event, including interviews with survivors and other knowledgeable people, and in 1962 published a full-length book entitled *Who Destroyed the Hindenburg?* Hoehling's answer to the question in his title was that a "rigger" (apparently a position on zeppelin crews) named Eric Spehl sabotaged the ship because a woman he loved was dedicated to destroying the myth of Nazi invincibility. Hoehling's research uncovered a rich factual context, which he used to embellish his thesis. Ten years later, defendant Mooney

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166 618 F2d 972 (2d Cir 1980).
167 899 F2d 1537 (7th Cir 1990).
168 *Hoehling*, 618 F2d at 975.
published a book with a similar thesis and sold motion picture rights to Universal City Studios, which rewrote the story into a screenplay for a 1975 movie. Hoehling sued Mooney and Universal for infringement, claiming that they had copied his Spehl hypothesis. Hoehling also claimed that Mooney's book took 266 facts original to his book, while Universal took 75 such facts.\textsuperscript{169} Mooney and Universal moved successfully for summary judgment. The Second Circuit affirmed, declaring that “[s]uch an historical interpretation, whether or not it originated with Mr. Hoehling, is not protected by his copyright and can be freely used by subsequent authors. . . . [F]actual information is in the public domain.”\textsuperscript{170} The court then gave its analysis even stronger bite by using it to preempt Hoehling's state law claims of unfair competition.\textsuperscript{171}

In \textit{Nash}, plaintiff Jay Robert Nash wrote two books arguing that the FBI shot the wrong man when it claimed to have killed John Dillinger during a 1934 sting operation in Chicago. According to Nash, Dillinger learned of the sting, sent a stooge named Jimmy Lawrence in his place, and then decamped to California; the embarrassed FBI covered up its blunder by planting Dillinger’s fingerprints at the morgue. Nash supported this story in part by detailing the physical and photographic differences between Dillinger and the corpse and by noting that Dillinger’s father encased the corpse in concrete before burial. Nash sued CBS when its television series “Simon and Simon” “took from Nash’s works the idea that Dillinger survived and retired to the west coast, and employed many of the ingredients that Nash used to demonstrate that the man in the Cook County morgue was not Dillinger.”\textsuperscript{172} The Seventh Circuit affirmed the district court’s grant of CBS’s motion for summary judgment, holding that copyright law gave Nash no rights to his “analysis of history.”\textsuperscript{173}

Both courts denied protection for the plaintiffs’ original creation of historical theories without explaining how creators’ incentives would survive the rebuff. The \textit{Hoehling} court begged the question entirely. “To avoid a chilling effect on authors who contemplate tackling an historical issue or event,” the court said, “broad latitude must be granted to subsequent authors who make

\textsuperscript{169} See id at 979 n 6.
\textsuperscript{170} Id at 979.
\textsuperscript{171} Id at 980.
\textsuperscript{172} \textit{Nash}, 899 F2d at 1541.
\textsuperscript{173} Id at 1543.
use of historical subject matter, including theories or plots.”\textsuperscript{174} This point \textit{presumes} that authors will create enough “theories or plots” for subsequent authors to use, for there is scarce reason to worry about chilling the use of things that never come into existence in the first place. Put otherwise, the court measured the costs but ignored the benefits of copyright.

More obtuse is the court’s comment that “there could be no infringement because of ‘the public benefit in encouraging the development of historical and biographical works and their public distribution.’”\textsuperscript{175} Mr. Hoehling no doubt felt keen sympathy for this public benefit—and astonishment that the court counted the point against him. Basic copyright logic holds that the way to encourage development and distribution is to \textit{grant} protection. The court’s silence forces speculation on some implicit and unexamined premise for its application of the law.

One possible premise is that we need not worry about creating historical facts because they already exist. Lawyers would be curt with the suggestion, however, that \textit{legal} research warrants no fee because it simply collects documents that already exist. In both cases the error confuses past events (including judicial opinions) with their investigation, analysis, and presentation. The passage of time is inevitable; the study of its effects is not.

A different premise is that historical investigation and analysis are somehow too important to confine them with copyright’s exclusivity. One expression of this view simply announces as self-evident some conclusion like “obviously the first reporter could not copyright the sinking of the Titanic.” A more grandiose version of the same notion is that “citizens in a democracy must have free access to a knowledge of their past.” In terms of incentives, these arguments are irrational. Each boils down to the non sequitur that historical investigation is so important that we must destroy the incentive to undertake it.

Yet another conceivable premise is that there exists some fundamental and relevant difference between fact and fiction. The events of both cases, however, undermine this distinction. In each case the defendant used the historical plots and details for their entertainment value. Movie and television “docu-dramas” resort to historical topics because life often is more interesting than any-

\textsuperscript{174} Hoehling, 618 F2d at 978.
\textsuperscript{175} Id, quoting \textit{Rosemont Enterprises v Random House}, 366 F2d 303 (2d Cir 1966). See also id at 980 (preempting state law unfair competition claims to vindicate “the overriding goal of encouraging contributions to recorded knowledge . . .”).
thing the available screenwriters can make up. When it is not, the
screenwriters cheerfully change it. Neither defendant Universal
nor defendant CBS held facts in any particular reverence. From
the perspective of incentives, moreover, this distinction seems bi-
zarre. For example, as far as the FBI is concerned, Nash's claim is
fiction. Should one come to believe it, it would be due to the proof
that Nash found and assembled. Yet, the more extensive, careful,
and hence believable the historian's efforts, the more hostile their
reception by the law of copyright. Law thus instructs authors to
scrap the historian's costly travel, boring interviews, painstaking
searching, and frustrating false trails. Instead authors should relax
in easy chairs to dream up tales: products that the law will em-
brace. Hoehling's logic thus makes no sense.

The Nash court made a number of these same criticisms of
Hoehling. It observed that "[a]uthors of fiction do not (necessarily)
need greater incentives than authors of non-fiction."176 Rather
than make absolute the class of nonfiction, the court cautiously
and ambiguously referred to "speculative works representing them-
selves as fact."177 In a slightly distorted manner, it also criticized
the Hoehling court for
go[ing] to the extreme of looking at incentives only ex post.
The autho[r] in Hoehling . . . spent years tracking down leads.
If all of [his] work, right down to [his] words, may be used
without compensation, there will be too few original investiga-
tions, and facts will not be available on which to build.178

Disappointingly, however, the Nash court did not follow these
penetrating criticisms through to a credible incentive account for
its result. Instead, it vaguely counseled moderation,179 adding that
"law" compelled its decision—even though it belied such recourse
to supposedly settled authority in the preceding paragraph by crit-
icizing unsettled and unfavorable precedent.180

The Nash opinion further noted that Nash's own research re-
lied on others' historical treatments.181 The relevance of this point

176 Nash, 899 F2d at 1542.
177 Id at 1541.
178 Id at 1542 (emphasis added). Compare Hoehling, 618 F2d at 980 ("A verbatim re-
production of another work, of course, even in the realm of nonfiction, is actionable as copy-
right infringement.") (emphasis added).
179 Nash, 899 F2d at 1542.
180 Id; see also id (refusing to apply earlier Seventh Circuit opinion in Toksvig v Bruce
Publishing Co., 181 F2d 664 (7th Cir 1950), favorable to Nash, on the ground that it "has
been justly criticized").
181 Id at 1542-43 ("[Nash's] books are largely fresh expositions of facts looked up in
is ambiguous. Some might say it showed the justice of ruling against Nash; Nash was venal to sue CBS for doing what he had done himself—presumably without regard for the niceties of copyright, although the court cited no evidence on this point. This focus on ex post fairness, however, misinterprets the passage. First, Judge Easterbrook, the author of the Nash opinion, has elsewhere argued persuasively that judges deciding copyright cases should concentrate their attention on the ex ante incentives they create. Second, Nash did not sue CBS for copying facts about Dillinger that Nash in turn simply had “looked up in other people’s books.” Had he done only this, Nash’s claim would have been like Nichols’s and properly ought to have met the same fate. Rather, Nash had invested a good deal more effort in his theorizing about Dillinger. Had Nash copied from others, that fact might lead these others to sue Nash. But that fact dictates judgment for CBS only under the rule that two wrongs make a right.

Alternatively, the court might have believed that Nash’s reliance on others’ historical treatments showed that Nash knew that the law of copyright has never protected “historical facts.” Such evidence indeed would be significant to an analysis of incentives; it would show that something besides copyright protection must have motivated Nash’s creation. This implication is doubtful, however, even if we indulge the conjecture that Nash had not sought copyright permissions from his sources. To the contrary was earlier Seventh Circuit precedent, upon which Nash could have relied and which the court had to dismiss before ruling against him. Moreover, Nash could reasonably have believed that his own incidental use of others’ works was fair use, but that more extensive appropriation of his original thesis would not be. The fact that Nash had

other people’s books. . . . Consider the introduction [to one of Nash’s other books:] . . . ‘The author’s own files, exceeding more than a quarter of a million separate entries and a personal crime library of more than 25,000 volumes, were heavily employed.’ The producers of Simon and Simon used Nash’s work as Nash has used others’ . . . .”.


See Nash, 899 F2d at 1543.

See id at 1538 (“After interviewing many persons connected with Dillinger’s gang and the FBI’s pursuit of it, Nash tracked Dillinger to the west coast, where Dillinger married and lay low. Nash believes that he survived at least until 1979. [Nash’s book] contains pictures of a middle-aged couple and then an elderly man, who, Nash believes, is Dillinger in dotage.”).

See note 180.

See text at notes 117-19; compare 17 USC § 107(3) (a factor relevant to fair use is “the amount and substantiality of the portion used in relation to the copyrighted work as a whole”).
relied on others' research to some degree thus cannot justify the
court's refusal to protect his own original and substantial
contribution.

Perhaps to pose a different implication of this observation
about Nash's own borrowing, the Nash court also cited a general
argument from an important journal article by Professor Landes
and Judge Posner.\footnote{\textit{Nash}, 899 F2d at 1541, citing
Landes and Posner, 18 J Legal Stud at 332-33, 349-59
(cited in note 72).} Their argument is original and significant
but, I believe, does not fit the facts of this case. I digress from my
focus upon Nash to treat the analysis of Landes and Posner
directly.

Landes and Posner review the variety of incentives besides
copyright that can prompt the creation of works of authorship.
They point out that authors typically use others' creations in the
process of producing their own.\footnote{\textit{Landes and Posner}, 18 J Legal Stud at 332
(cited in note 72).} They conclude that authors as a
class might prefer less copyright protection to more, for protecting
historical research with copyright law might do more to increase
authors' production costs than to increase their revenues. If so,
then increasing copyright protection would paradoxically \textit{reduce}
the extent of new creation.\footnote{\textit{Landes and Posner}, 18 J Legal Stud at 329-33, 347-53
(cited in note 72).} Their analysis thus is not necessarily
that existing incentives suffice, but that additional incentives
would be irrationally costly.

This general insight is clever but implausible on Nash's facts.
It underestimates the revenue benefit and hence incentive effect
that copyright protection would give in cases like \textit{Hoehling}
and \textit{Nash}. At the same time, it overestimates the production cost in-
crease that such protection would trigger.

Beginning with the revenue benefits from copyright protection
for historical investigation, the cash from Hoehling's sale to Uni-
versal or from Nash's sale to CBS could be quite substantial, cer-
tainly in comparison to historians' typical earnings. The incentive
potential thus can be sizable. Landes and Posner could correctly
reply, however, that only a tiny percentage of historical treatments
attract attention in Hollywood. In incentive terms, the \textit{expected}
profit is the relevant figure, and an exceedingly small probability
can decimate a large number of dollars. This point holds for a typi-
cal faculty historian, for whom movie and television rights are but
a joke.

\footnote{\textit{Nash}, 899 F2d at 1541, citing Landes and Posner, 18 J Legal Stud at 332-33, 349-59
(cited in note 72).}
Hoehling and Nash, however, justifiably might resent being dismissed on the ground that few academicians dream of media contracts. Each might respond that, unlike tweedy eggheads, popular historians can choose topics precisely for their popular interest and hence their media prospects. Zeppelin sabotage, FBI gangster cover-ups—these topics would reap scorn from a tenure committee, which might phrase its contempt by suggesting that the candidate seemed to be writing for television. And the committee might be right. Protecting historical investigation with copyright quite possibly could yield substantial incentives for some authors to undertake additional and laborious historical investigation.

Turning to possible production cost increases, these costs would consist of new royalty payments and new transaction costs. New royalty payments are unlikely to be prohibitive. Profit-maximizing copyright owners want to set affordable royalties. (Of course, a deal beneficial to both parties nonetheless can founder on inept tactical posturing. But such cases seem like the exception, not the norm.) We thus can expect copyright owners to set positive but affordable royalties.

Finally, transaction costs will increase. This fact is certain—and an inescapable side effect of a desirable phenomenon. No transaction is entirely costless, and the point of intellectual property is to prompt contracts that transfer incentive dollars to creators. Transaction costs thus always will accompany intellectual property rights, so long as those rights perform their economic function. (An exception to this statement might be the practically inconsequential creator who integrates vertically.) The question is not whether these costs will increase, but whether they will swamp the revenue benefit from protecting historical investigation.

In some cases cost increases probably would outweigh added revenue. Publications earn academic historians very little, possibly even less than zero. These historians probably would earn very little more from copyright protection of their efforts, given that they generally write for small audiences. And although royalty rates for academic uses would not rationally and typically be very high, historians often use a great number of sources, thus multiplying the

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190 A list of Nash's other titles is suggestive: Darkest Hours: A Narrative Encyclopedia of Worldwide Disasters from Ancient Times to the Present; Murder, America: Homicide in the United States from the Revolution to the Present; Look for the Woman: A Narrative Encyclopedia of Female Prisoners, Kidnappers, Thieves, Extortionists, Terrorists, Swindlers and Spies from Elizabethan Times to the Present; and Murder Among the Mighty: Celebrity Slayings that Shocked America. Nash, 899 F2d at 1538 n **.
191 See, for example, Landes and Posner, 18 J Legal Stud at 336 (cited in note 72).
costs of the transactions. Moreover, scholars are supposed to be a
critical bunch, raising the prospect that copyright owners might re-

1 refuse permission for fear of criticism. Thus even slight increases in production costs would be likely to outweigh the benefits from protection and to substantiate Landes and Posner's fear of dimi-

nished output.

These cases argue for particularized application of the fair use defense, however, and not for general exclusion of historical in-

quiry from copyright protection. Copyright's doctrine of fair use protects scholars who use a large number of research sources. Sec-

1 tion 107, which codified law on the topic, generally provides a de-

fense "for purposes such as . . . scholarship, or research." Sub-

section (1) of that section makes relevant "the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes." The fair use doctrine is notoriously confused. But the case of research scholars making use of others' work in an academic publication is a core example of the defense. Another core case, as Landes and Posner point out, is the "high-transaction-cost case," where "the costs of a voluntary exchange are so high relative to the benefits that no such exchange is feasible between a user of a copyrighted work and its owner." The strength of a fair use defense for these cases ought not dictate that copyright protection be unavailable for cases like Hoehling and Nash, where the facts differ considerably. Thanks in part to opinions like Sheldon, entertainment companies are accus-

1 tomed to bearing the costs of transacting royalty arrangements with authors. There is every reason to believe that incentive effects in such cases would be tangible and positive. Conversely, there is every reason to believe that "[r]educing the return on such effort, by allowing unhindered use, would make the initial legwork less attractive and so less frequent." This reduced creative output is likely whether or not we hypothesize some ex ante agreement by

194 17 USC § 107.
195 Id.
198 Nash, 899 F2d at 1542.
authors on copyright protection, for choosing this protection level ex ante would simply deter this type of investment ex post. In sum, the Nash court mistakenly relied on Landes and Posner’s suggestion that copyright protection for historical investigation may bring more costs than benefits.

Returning to the Nash opinion, we also return to the question of whether there is reason to believe that, absent copyright, other incentives suffice to prompt historical investigation. The two most likely alternative incentives are the first-mover advantage and public subsidies for creation. Neither offers much basis for the judicial willingness to second-guess the need for copyright, suggesting that Hoehling and Nash were wrongly decided.

The first-mover or lead-time advantage argument would waive legal incentives on the grounds that the desire to be first to market is an alternative incentive. This argument is exceedingly problematic as a general matter. The danger is the slippery slope: that such thinking will conclude that we can dispense with creation incentives entirely. This view might be correct. We have no proof that it is, however, and it is at odds not only with two centuries of copyright policy but also with Congress’s action in 1976 after Professor (now Judge) Breyer had advanced just such arguments. Federal judges thus ought to feel little liberty to indulge the claim that the race to market obviates the need for copyright protection.

Nonetheless, one still might believe that copyright is superfluous to the daily, weekly, or monthly reporting of current news and events. People want to read or hear news that is hot. News media build reputations on scoops, and reputations sell subscriptions and advertising. This rationale may justify the otherwise puzzling saying that there is no copyright in news, thus warranting the abolition of copyright protection of investigation of recent history.

199 Compare Landes and Posner, 18 J Legal Stud at 333 n 13 (cited in note 72) ("[A]uthors may ... differ among themselves on where to set the level of copyright protection. Authors expecting to borrow less than they are borrowed from will prefer more copyright protection than those expecting to be net borrowers. Ex ante, however, before anyone knows whether he is likely to be a net 'debtor' or 'creditor,' authors should be able to agree on the level of copyright protection.").

200 Compare Breyer, 84 Harv L Rev at 299-302 (cited in note 78) (expressing skepticism about need for much copyright protection at all, partly on grounds of the inadequacy of the first mover advantage), with 1976 Copyright Revision Act, Pub L 94-553, 90 Stat 2541, codified at 17 USC, Copyrights (1977) (generally expanded the scope and duration of copyright protection).

201 See, for example, International News Service v Associated Press, 248 US 215, 234 (1918). But see id at 235 (concluding that a similar common law right must punish routine copying by a competing newspaper to ensure "the added profit so necessary as an incentive to effective action in the commercial world"). See also Richard A. Epstein, International
A second alternative incentive is subsidy. To support research of history that is not recent, the United States uses a different tool than property rights to solve the public goods problem. Taxpayers subsidize historians. Nearly all research universities have history departments and nearly all receive public funds. Faculty members in these departments are supposed to publish or perish. These subsidized creators are exceptions in the American world of private property incentives. But as such, these historians do assure copyright judges that the public has provided itself with the means for a good deal of historical research, entirely apart from the harvest of copyright.

These sources, however, offer no support for the judges who wrote Hoehling and Nash. Hoehling and Nash still can complain. Each devoted years to investigating events long past, for which no special prize exists for scooping rivals. We have no reason to trust lead-time protection against verbatim copying as sufficient to prompt such investment. As far as the record shows, neither author received public research monies. These alternative incentives exclude Nash, Hoehling, and similar authors.

We probably will get a good deal of historical reporting and analysis no matter what copyright policy judges set. But it seems that a different judicial policy could give us more, and that the benefit would exceed its costs. This tentative conclusion may seem counterintuitive. But the most obvious evidence is the least useful. There does seem to have been no shortage of published historical theories or plots, whether we mark the time since Hoehling’s decision in 1980 or begin at some earlier date. Yet what we see is not necessarily what we could have gotten. Uncreated work is odorless, tasteless, and invisible. We could be suffering a shortage compared to a world of plenty we have never known.

These speculations about incentives badly need scholarly investigation. In theory, economists or statisticians could pick a date of decisive policy change and look at data (if they exist) to discover changes in the output of historical works. Or instead of a time series study, the focus could compare a cross section of different national or international jurisdictions to isolate the effects of withholding or granting this copyright incentive. Or one might systematically poll authors or publishers to discover whether their

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202 Compare Nash, 899 F2d at 1541 (“The prospect of reward is an important stimulus for thinking and writing, especially for persons such as Nash who are full-time authors.”).
attitudes confirm or deny the importance of the copyright policy. Any clear finding—including a finding of no relationship at all between doctrine and output or attitude—would have powerful implications for judges. No one has begun this research agenda, however, and merely to state it is to suggest its predictable weaknesses.

Judges meanwhile must use their best practical judgment about sound policy. It has been the first object of this section to reveal such judgments as the policy declarations that they in fact are. The second object of this section has been to apply common sense to the conventional wisdom of two recent judicial opinions. This analysis strongly suggests the need for further consideration of the aggressiveness with which judges have refused protection to the fruits of historical investigation.

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The key to the dilemma of idea and expression is that this doctrine performs the same function for copyright law as patent examiners do for the law of patents: to evaluate the would-be property owners’ works in order to give them a precise statement of their rights. Before granting any rights, patent examiners assess an applicant’s contribution against all recorded innovation in the field to develop a precise and general statement of its novel and nonobvious aspects. Copyright law instead grants protection that is completely vague but nonetheless in effect from the moment of a work’s creation. Only in the enforcement stage does it deploy the doctrine of idea and expression to specify rights in a meaningfully detailed fashion.

With this realization, we can extract from the leading cases a concrete and sensible way to generate the conclusory labels of idea and expression. This approach ignores the words “idea” and “expression” and instead concentrates on what courts do, not what they say. First, the courts compare the plaintiff’s and defendant’s works to define as specifically as possible the exact thing that the defendant took from the plaintiff. Second, they determine whether that thing was original to the plaintiff in the sense that this Article uses the word: did its creation require costly investment by the plaintiff, presumptively in reliance on the promise of copyright protection, or was its creation merely the inexpensive borrowing of

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some extant thing with which experts in the field would be readily familiar? If the former, the defendant infringes by taking the plaintiff's expression; if the latter, the defendant acts legally in taking only the plaintiff's idea. In making this evaluation of originality, copyright judges ought to mimic patent law's practice of relying on experts in the field, for the experts can explain what those with ordinary skill in the art know without the library research that copyright law wisely has refused to require of authors.

This patent-based incentive analysis reveals that copyright law should tie the idea/expression dichotomy closely to copyright's definition of originality, as well as to its use of expert opinion. The dichotomy in fact simply clarifies that what copyright means by "new" is "new to an ordinary author's untutored consciousness." The analysis aligns well with the key opinions of Nichols and Sheldon. It reveals that other judicial decisions refusing to protect plaintiffs' costly creations are debatable policy decisions, not the hopelessly arbitrary consequences of an unreviewably metaphysical doctrine. Judges have been willing to second-guess the need for copyright protection in several areas, including the creation of systems and processes and the formulation of historical plots or theories. Analysis supports the reluctance to provide copyright protection to the former, but suggests a need for greater protection of the latter.

Innovation policy can never abolish uncertainty. But those who make and study the policy ought to be able to agree on the right questions to ask and the right method of answering them. The current doctrine of idea and expression utterly fails on these counts. Patent law offers copyright doctrine the incentive foundation it needs.

IV. TWO QUESTIONS ABOUT DIFFERENCES BETWEEN PATENT AND COPYRIGHT LAW

This Article's focus has been normative. This brief final section changes character. It asks two speculative questions of a positive nature that the literature has neglected but that the preceding effort makes prominent. First, why do we have separate doctrines and procedures for patent and copyright law, rather than a single, unified system of innovation law? Second, why has patent law made so much more sense than copyright?

The first question becomes obvious if one accepts that copyright and patent share the same economic and moral functions. This Article has stressed the useful implications that flow from this functional identity. Yet there has been little discussion of why
we have two different laws to perform the same function. Doctrine tends to emphasize the differences rather than the similarities between the fields. The two legal cultures traditionally differ, rarely engaging each other in conversation. In part, the legal cultures divide at the wall of mathematics. High-tech inventors and their lawyers generally perceive themselves as having little in common with the stylishly literate world of novels, publishing, and studios, and vice versa. Artists think engineers are nerds. Inventors think fiction and movies are fun but ultimately useless. You never see anyone wearing both Gucci loafers and a plastic pocket protector. Yet once the functional similarity of patent and copyright law is before us, it is a short step to the question of why we have two bureaucratic procedures and two legal doctrines for what is essentially the same problem.

An undoubtedly correct, but unsatisfying, answer is that different historical accidents initially triggered the different traditions of patent and copyright. Patent law apparently began in Venice, which recognized the need to use exclusive rights to promote particular types of technological innovation as early as 1332, and by 1432 had enacted a general patent statute uncannily similar to our own. Copyright, on the other hand, first arose in England in 1710, when Parliament reacted to the advent of the printing press by adopting the celebrated Statute of Anne. These historical facts do not make for much of an explanation. They do not account for why the first Congress recapitulated the historic separation instead of merging the statutes into a single law the way the framers merged the policies into a single constitutional clause. Neither do historical facts of this sort illuminate whether we ought to consider merging the two fields today.

A more satisfying, but still partial, explanation stresses the different characters of the innovative processes the two regimes protect. I have contrasted the necessarily incremental character of patentable innovation with the nature of "authorship," which judges properly have been reluctant to insist must begin with library research. This difference does explain why patent law demands novelty and nonobviousness while copyright does not. It does not, however, account for the notable procedural differences between the fields. Patent law requires that a federal agency negotiate a precise and acceptable statement of applicants' rights as a condition of the property grant. Copyright law makes protection of an unspecified character commence with a work's creation, but the protection is refined in a precise way only if and when a court adjudicates an infringement suit. There is nothing inevitable about consigning patents to bureaucrats and copyrights to judges. Congress could have ordered a bureau to administer copyright law, for instance, or consigned patents exclusively to the courts. The question remains why we use one procedure for granting patents and another for copyrights.

The answer is a simple matter of volume. An early agency definition of a creator's rights does reduce uncertainty and facilitate transactions. But such individualized agency review is costly and time-consuming, even for the relatively small number of yearly patent candidates. In 1987, for instance, inventors filed about 140,000 patent applications, while authors registered more than four times as many works of authorship. This comparison vastly understates the number of copyrights created each year, for authors do not register the majority of works that they fix in tangible media of expression. (Compare, for instance, the number of works that you have fixed in a tangible medium of expression—memos, reports, essays, tapes, computer files, photographs, etc.—with the number that you have registered with the federal government.) The nation in its entire history has granted only 5.27 million patents. It would not be surprising if a country of a quarter of a

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210 See text at note 212. Compare Tullock, Intellectual Property, in Kryster, ed, Direct Protection of Innovation at 187 (cited in note 80) ("The present system however, wastes a great deal of resources in having patent examiners examine patents which will never be applied.").


212 July 31, 1990 telephone call to PTO patent search room (current numbering system lists 4,945,570 utility patents, 7,287 plant patents, and 309,664 design patents). See also U.S.
billion people created that number of different written documents, photographs, and works of art and music in a single day. To extend copyright protection so widely by means of individualized agency inspection would lead to paralyzing costs. Congress was wise to give inventors the certainty of advance and individualized agency definition of rights claims when possible. But when the volume of creation made agency review prohibitive, Congress likewise was wise to relegate authors to the less informative but cheaper alternative of delayed but sporadic adjudication.

Turning to the second question, I return to my opening paradox. Why have policymakers been more successful in making sense of patent law than of copyright? The answer, I believe, is at least in part that copyright has faced a more difficult problem than has patent law. Patent law’s technological focus is forbidding to most lawyers and judges. But ultimately the copying that patent law seeks to curb is primitive: understand the inventor’s principle and make a thing that embodies it. This process of handmade imitation is paleolithic. Patent law has governed monkey-see, monkey-do replication for centuries; and all the while the form of copying has remained pretty much the same. Copyright law has seemed more accessible to lawyers, who to some degree inevitably are authors themselves. But in fact the technologies of copying are various and evolving: first came the printing press, then the camera and photocopier and tape recorder, now the plug molding process, computer disks, samplers, and videocassette recorders. Patents control the rudimentary duplication of high technology. Copyrights must cope with wide technology copied in evolving and ever more sophisticated ways. It is not surprising that patent law beat copyright to coherence.

Conclusion

Professor Goldstein begins his recent copyright treatise by observing that the statute “leaves three of the great questions of copyright primarily to the judiciary: What constitutes original authorship qualifying for protection? Where should the line be drawn between a work’s unprotected ideas and its protectible expression? What constitutes infringement?”\textsuperscript{1213} The judiciary has found these problems daunting. The most forbidding has been the prob-

\textsuperscript{1213} Paul Goldstein, 1 Copyright: Principles, Law and Practice (Little, Brown, 1989).
lem of the idea/expression dichotomy. At the end of his career, Judge Learned Hand declared it simply insoluble. Judge Easterbrook recently seconded the motion: “After 200 years of wrestling with copyright questions, it is unlikely that courts will come up with the answer any time soon, if indeed there is ‘an’ answer, which we doubt.” Although less eloquently candid, courts struggling to define originality and the proper role of experts in infringement cases also have found cause for despair.

The lamp of patent can illuminate these problems, which turn out to be of a piece. Patent law shows that experts can identify those instances in which the incentive of property rights is not necessary to prompt creation. With this help, copyright courts can adjust their definition of originality to exclude works that are so easy or routine to create that they would arise without the need for copyright protection. Patent law also provides a model for transcending the maddening metaphysics of idea and expression. It implies that copyright judges ought first to compare the two works at issue to define as specifically as possible the thing that the defendant took from the plaintiff. Second, judges ought to determine whether this taken thing was itself taken by the plaintiff from the cultural tradition known to those in the field, an idea in the doctrine’s conclusory parlance, or rather was created through costly personal investment, an expression.

These implications of patent law’s wise treatment of incentives provide an alternative to the embarrassment of opinions declaring that “decisions must inevitably be ad hoc” while at the same time reversing lower courts’ judgments—a posture that invites cynicism if believed. They would permit courts to abandon the elastic antics of merger doctrine and to define the relevance of expert opinion. These proposals are not free from uncertainty; no rule that turns upon matters of opinion ever is, and the definition of innovation at heart is just that. But these proposals are internally consistent, logically and judicially tractable, and socially beneficial. The patent analogy permits judges and lawyers to ask sensible questions rather than looking to perverse or incoherent rules.

The patent model tracks some of copyright’s leading case law. It does not, however, make all the doctrine into a seamless web.

See text at notes 22-24.
See Shaw v Lindheim, 908 F2d 531, 534 (9th Cir 1990) ("It is thus impossible to articulate a definitive demarcation that measures when the similarity between works involves copying of protected expression; decisions must inevitably be ad hoc.") (reversing district court grant of summary judgment for defendant).
Instead, this perspective casts critical light on a number of important cases, suggesting that they at least require more thoughtful justification, and possibly outright reversal.

This perspective also poses some basic but neglected questions about the structure of American innovation policy. It suggests that we have two separate systems of patent and copyright in part because of the differing nature of innovative processes, but mainly because inventors are so much rarer than authors. Finally, it speculates that copyright's intellectual structure has lagged behind patent's for a surprising reason. Although lawyers are fond of regarding patent law as technologically arcane, in fact it is copyright that has faced greater challenges from shifting technology. From printing press to hard disk, the technologies for copying copyrighted work continue to multiply. The basic technology of copying inventions, however, has changed little since one hominid saw another waving a club and then reached for a stick.