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The Audience in Intellectual Property Infringement

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THE AUDIENCE IN INTELLECTUAL PROPERTY INFRINGEMENT*

Jeanne C. Fromer**

Mark A. Lemley***

Every intellectual property (“IP”) right has its own definition of infringement. In this Article, we suggest that this diversity of legal rules is largely traceable to differences in the audience in IP cases. Patent, trademark, copyright, and design patent each focus on a different person as the fulcrum for evaluating IP infringement. That patent law, for example, focuses on an expert audience while trademark looks to a consumer audience explains many of the differences in how patent and trademark cases are decided. Expert audiences are likely to evaluate infringement based on the technical similarity between the plaintiff’s and defendant’s works. Consumers, by contrast, are likely to pay more attention to market substitution and less attention to how things work under the hood. Understanding the different audiences in IP infringement is critical to understanding how the IP regimes variously define infringement.

The focus on audience has normative as well as descriptive implications. Neither patent law, with its focus on experts and technical similarity, nor trademark law, with its market-based consumer focus, has it entirely correct. Rather, we suggest that as a general matter, infringement of an IP right should require both technical similarity and market substitution. An ideal IP regime should care about a defendant’s conduct only if that conduct actually causes injury to the plaintiff’s market and its work is sufficiently like the plaintiff’s that it is reasonable to give the plaintiff control over that work. Assessing infringement through the expert’s eyes ensures that the law prevents

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closely related works in the field while permitting sufficiently different contributions. The consumer vantage point ensures that we protect IP owners only when they have been harmed in the marketplace.

IP owners who want to show infringement should have to demonstrate both that the defendant's work is technically similar to their own from the expert's vantage point and that the defendant's use causes the plaintiff harm in the marketplace. Copyright law, which looks to both experts and consumers at various points in the infringement analysis, is on the right track.

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INTRODUCTION

At the heart of any IP case is the problem of deciding whether the defendant has infringed on the plaintiff's right. A principal question in IP infringement disputes is whether the defendant's product (or work, or brand, or idea) is too similar in some respect to the plaintiff's.

But who decides whether the defendant's product is too similar to the plaintiff's? Put another way, who is the audience in IP infringement? Is it the customer of the parties' products that must find the products too similar? Or perhaps an expert on the products' subject matter? Or instead an ordinary reasonable person? This choice can easily affect the judgment on similarity. For example, a chemist might think that two drugs for providing pain relief are not sufficiently similar because of their different chemical composition or because they trigger a different pathway in the human body. A customer, by contrast, might find the two drugs highly similar because they

provide comparable relief without side effects. An ordinary reasonable person might find insufficient similarity between two audiovisual works that are both aimed at children and depict fantasylands filled with fanciful creatures because a principal character in one work wears a “cummerbund,” while a major character in the other wears a “diplomat’s sash.” By contrast, the typical child encountering the works would regard them as substantially similar.¹ A musicologist might ignore differences in musical style, instead focusing on the underlying composition, in determining whether a pop song is similar to a calypso song. A consumer would do just the opposite.² Consumers may focus on descriptive similarities in brand names or functional aspects of packaging that producers do not intend to indicate the product’s source.³

As these examples illustrate, the choice of audience to decide similarity matters because it affects whether infringement is found, which in turn influences the sorts of works that third parties are willing to produce without risking liability. Choice of audience thus collectively shapes the available body of works, products, and brands. This critical link between the audience for IP infringement and the types of works the law permits underscores the importance of the optimal choice of audience.⁴ But surprisingly, the question of the audience for IP infringement has largely

1. Cf. *Sid & Marty Krofft Television Prods., Inc. v. McDonald’s Corp.*, 562 F.2d 1157, 1166–67 (9th Cir. 1977) (“We do not believe that the ordinary reasonable person, let alone a child, viewing these works will even notice that Pufnstuf is wearing a cummerbund while Mayor McCheese is wearing a diplomat’s sash.”).

2. See Jamie Lund, *An Empirical Examination of the Lay Listener Test in Music Composition Copyright Infringement*, 11 VA. SPORTS & ENT. L.J. 137, 140 (2011).

3. See Thomas R. Lee et al., *An Empirical and Consumer Psychology Analysis of Trademark Distinctiveness*, 41 ARIZ. ST. L.J. 1033, 1099 (2009) (“If a descriptive word mark is presented in a spatial placement, size, and style that matches the consumer’s schematic mental model of what a product package and brand look like, the word may be perceived as a source indicator even if its semantic meaning is ‘merely descriptive.’”); cf. *Traffix Devices, Inc. v. Mktg. Displays, Inc.*, 532 U.S. 23, 32–35 (2001) (holding that a dual-spring design mechanism for keeping outdoor signs upright in adverse wind conditions serves a utilitarian function and, as a result, is not protectable under trademark law).

4. See generally Jeanne C. Fromer, *Expressive Incentives in Intellectual Property*, 98 VA. L. REV. 1745 (2012) (discussing how instrumental justifications of granting authors and inventors incentives to create, respectively, expressive works and inventions, sit at the base of copyright and patent laws); Mark A. Lemley & Mark P. McKenna, *Owning Mark(et)s*, 109 MICH. L. REV. 137, 142 (2010) (“Trademark law prevents parties from using a mark that is likely to confuse consumers about the source of their goods. In the context of competing goods, this protects mark owners from diverted trade and consumers from making mistaken purchases.”).

been ignored in the academic literature⁵ and undertheorized in judicial decisions.⁶

Curiously, each IP regime offers a different answer to the audience question. Patent law generally seeks the opinion of a hypothetical expert, the person having ordinary skill in the art (“PHOSITA”). Trademark law takes the opposite approach, principally asking what consumers in the real world think. Copyright law seems to employ aspects of each approach, switching off between seeking the perspective of experts, consumers, and ordinary observers. And design patent law traditionally applied a hybrid approach but has recently switched to a consumer-focused inquiry.⁷

As we explain in this Article, the current hodgepodge of audiences in IP infringement cases reflects a lack of deliberation over what ought to be defined as infringement. Each regime’s choice of audience drives its definition of infringement, which in turn determines how well the IP regime achieves its goals. Take patent law’s focus on experts. Experts are likely to find infringement when two items are technically similar, whether or not consumers would view them as market substitutes. As a result, patent law tends to find infringement whenever two products are sufficiently similar technically, without regard to the market relationship between the products. Trademark and design patent law, by contrast, focus on the consumer audience. Consumers are likely to find similarity when two works are market substitutes; they don’t usually care what is under the hood. So trademark and design patent law tend to find infringement when two products satisfy the same market need or desire, whether or not that market substitution results from

5. There are a few articles that focus on a particular audience in a single area of law. See, e.g., Rebecca S. Eisenberg, *Obvious to Whom? Evaluating Inventions from the Perspective of PHOSITA*, 19 BERKELEY TECH. L.J. 885 (2004) (examining the patentability standard of non-obviousness); Mark D. Janis & Timothy R. Holbrook, *Patent Law’s Audience*, 97 MINN. L. REV. 72, 89–120 (2012); Jamie Lund, *Fixing Music Copyright* (Mar. 11, 2013) (unpublished manuscript), available at <http://ssrn.com/abstract=2231836> (arguing that a trained musician is the appropriate audience for music composition copyright). But no one to our knowledge has written about the issue across IP regimes or even as a comprehensive issue of infringement in any of the IP regimes.

6. See, e.g., *Sid & Marty Krofft*, 562 F.2d at 1162–65 (establishing the Ninth Circuit’s general two-part framework for evaluating substantial similarity in copyright infringement cases and referencing without further analysis that “expert testimony” would be appropriate to compare “specific criteria which can be listed and analyzed” and that the “ordinary reasonable person” is the audience for evaluating “whether there is substantial similarity in expressions”). The issue of audience comes up at least implicitly in other legal areas, like tort liability for product design defects. In that context, there has been debate over whether to measure liability based on consumer expectations or risk utility. Aaron D. Twerski & James A. Henderson, Jr., *Manufacturers’ Liability for Defective Product Designs: The Triumph of Risk-Utility*, 74 BROOK. L. REV. 1061 (2009).

7. There is a fourth possible approach—the reasonable competitor—that seems most commonly used in trade secret law, although Mark Janis and Timothy Holbrook suggest that it is relevant to some aspects of patent law as well. Janis & Holbrook, *supra* note 5, at 101–07. In the interest of space, we do not discuss trade secrets or the reasonable competitor further in this Article.

the technical similarity of the protected product's novel attributes. Copyright law takes a hybrid approach, asking some questions from the perspective of an expert and others from the perspective of either a consumer or a reasonable "ordinary observer." As a result, copyright sometimes seems to pay attention to technical similarity and other times to focus on market substitution.

The first goal of our Article is descriptive. We think that a focus on the audience in IP infringement—and a recognition that each IP regime has a different audience in mind—helps explain why four legal regimes with related goals⁸ have nonetheless chosen such different means of testing infringement.

But our focus on the audience has a normative payoff as well: it causes us to ask in a more general way what IP laws should define as infringement. We think copyright's hybrid model hints at the right approach. In this Article, we argue that each of the IP regimes—patent, copyright, trademark, and design patent—should find infringement only when the defendant's product is too similar to the plaintiff's in the eyes of both experts and consumers, not just one or the other. Put another way, infringement in an ideal IP regime grounded in utilitarianism should require proof of both sufficient technical similarity and market substitution. Market substitution is important because a use that does not interfere with the plaintiff's market in some way generally does no relevant harm.⁹ Technical similarity is also important because not all acts that interfere with a plaintiff's market are problematic. A defendant who enters the market with a different, better product, for instance, may erode the market for the plaintiff's product, but the law should not prohibit that competition.

An IP regime's choice of audience is bound up with that regime's emphasis on technical similarity, market substitution, or both. The expert-as-audience approach ensures that we find infringement only when two works are sufficiently similar in their protectable elements. An audience of experts familiar with the subject matter is likely to understand the technical and historical constraints—including those of the particular genre—that led to similarities and to find improper appropriation only when the works bear sufficient technical similarity to each other despite those constraints.¹⁰ Assessing infringement through the expert's eyes thus ensures that the law protects creators only from sufficiently close imitations.

8. That said, there are differences in these legal regimes' goals, which we explore *infra* in Part I. And as we explain *infra* in Part III, despite these differences, we think the basic audience for infringement ought to be the same for the four regimes.

9. The definition of the market is complex. See *infra* text accompanying notes 221–226.

10. Cf. Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 991–92 (1997) (discussing the line between "improvement" and "imitation"). For an exploration of whether copyright law ought to seek to promote aesthetic progress, see Barton Beebe, *Bleistein*; or, Copyright Law, and the Problem of Aesthetic Progress (Oct. 15, 2012) (unpublished manuscript) (on file with the *Michigan Law Review*).

The consumer matters too, because sometimes similarity of expression occurs in such disparate contexts that the two works are not market substitutes at all. Consumers are more likely than domain experts to be sensitive to whether the defendant's work is substituting for the plaintiff's in the marketplace. This consumer vantage point matters because IP laws—with their instrumental incentives—are generally concerned with protecting IP owners only when they have been harmed in the marketplace with regard to their underlying intellectual property.¹¹

Many of the problems with modern IP law can be traced to finding infringement when only one form of similarity—expert based or consumer based—is present. Our framework has the potential to reconceive the idea of IP infringement in a way that solves a number of the problems with each regime. For instance, importing market-substitution considerations into patent law can help avoid findings of minor infringements that have major consequences. At the same time, relying on experts to assess trademarks can prevent trademark-owner overreaching and the problem of “drift” in consumer perceptions.¹²

In Part I, we describe the different ways trademark, patent, copyright, and design patent law define the relevant audience. In Part II, we elaborate on and analyze the possible types of infringement audiences in IP law: the consumer, the expert, and the ordinary reasonable person. We also touch on how the audience choice has second-order effects: the choice is intimately bound up with the question of who the fact finder should be. In Part III, we show how the choice of audience relates to the goals of IP law. We argue that IP infringement should require similarity from both the expert's and the consumer's point of view. Employing this framework, we evaluate the success of trademark, patent, copyright, and design patent laws in matching goal to audience. We conclude with a few thoughts on how our hybrid approach may be implemented in practice.

I. AUDIENCES IN IP CASES

The major forms of IP—trademark, patent, copyright, and design patent—look different, but they do have at least one objective in common: they are generally concerned with the instrumental goal of providing individuals with an incentive to create something intangible that might otherwise be easily appropriated.¹³

11. Herbert Hovenkamp, *Markets in IP and Antitrust*, 100 GEO. L.J. 2133, 2149 (2012).

12. Stacey L. Dogan & Mark A. Lemley, *Grounding Trademark Law Through Trademark Use*, 92 IOWA L. REV. 1669, 1694–95 (2007).

13. See generally Lemley, *supra* note 10. Trademark law seems like the exception here because it is traditionally concerned with encouraging a working marketplace by allowing consumers and producers to accurately identify goods or services and protect brand reputations. See William M. Landes & Richard A. Posner, *Trademark Law: An Economic Perspective*, 30 J.L. & ECON. 265, 269–70 (1987); Mark P. McKenna, *The Normative Foundations of Trademark Law*, 82 NOTRE DAME L. REV. 1839 (2007) (making the case that trademark law traditionally was not concerned with protecting consumers but rather with protecting producers).

Because IP laws protect intangible concepts, communicating what the IP right covers is more difficult than articulating the scope of property rights for tangible items, whose bounds are easier to describe and depict.¹⁴ Moreover, because IP laws protect things that are typically new and relatively unknown, the vocabulary available to communicate what these items are is often inadequate.¹⁵ Complicating the definition of the IP right is the fact that some forms of IP law, such as copyright, do not require that the creator even attempt to articulate the bounds or characteristics of her creation; legal disputes in these cases involve holistically comparing the plaintiff's and defendant's creations.¹⁶ The difficulty (and sometimes, the lack of necessity) of communicating precisely what is protected complicates the resolution of a claim for IP infringement because such a claim must always involve a determination of whether the allegedly infringing item is equivalent or too similar to the plaintiff's protected item.

Yet there is another underexplored layer of complexity in determining IP infringement. If we are to base infringement on similarity—and all IP regimes do—we must refer to some audience to determine whether the protected and allegedly infringing items are too similar. In other words, even if we know what we are comparing the defendant's product to, in order to determine infringement we must also know who serves as the reference point for that comparison.

In this Part, we consider trademark, patent, copyright, and design patent law in turn, paying particular attention to the audience each form uses to assess similarity for infringement. We find that trademark law focuses primarily on the consumer as the audience for IP infringement. By contrast, patent law focuses primarily on a different audience: the expert. Both design patent and copyright law are more mixed. At various points, each focuses on the consumer, the expert, and the ordinary reasonable observer.

A. *Trademark Law*

Trademark law protects brands, which are manifested in words, symbols, logos, and sometimes a product's design or packaging.¹⁷ Brands are

from unfair competition). Nonetheless, trademark law seeks to accomplish this goal by encouraging the creation of strong—intangible—marks associated with goods or services and protecting them from appropriation. See Jeanne C. Fromer, *The Role of Creativity in Trademark Law*, 86 NOTRE DAME L. REV. 1885 (2011). So while the goals are different, the structure of the right is similar in many ways to that of patents and copyrights.

14. Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1744–45 (2009); Jeanne C. Fromer, *Claiming Intellectual Property*, 76 U. CHI. L. REV. 719, 726 (2009); see also Kristen Osenga, *Linguistics and Patent Claim Construction*, 38 RUTGERS L.J. 61, 65–66 (2006) (describing the linguistic challenge of concisely describing complex patent claims).

15. Fromer, *supra* note 14, at 726; Osenga, *supra* note 14, at 66–67.

16. Fromer, *supra* note 14, at 743–47.

17. 15 U.S.C. § 1127 (2012) (defining trademarks to include certain “word[s], name[s], symbol[s], or device[s], or any combination thereof”); *Wal-Mart Stores, Inc. v. Samara Bros.*, 529 U.S. 205, 209–16 (2000) (holding that product design or packaging might constitute a

protectable under federal law so long as they are “used by a person” in commerce in a distinctive way “to identify and distinguish his or her goods[or services] . . . from those manufactured or sold by others and to indicate the source of the goods, even if that source is unknown.”¹⁸ Protection lasts as long as the trademark continues to be used in commerce and has not been abandoned.¹⁹

Trademark law focuses on fair competition.²⁰ Trademark theory suggests that trademarks bolster trade by “identify[ing] a product as satisfactory and thereby . . . stimulat[ing] further purchases by the consuming public.”²¹ According to this theory, producers of trademarked goods will have the incentive to invest in the goods’ quality because consumers will use the trademark as a way to identify a desirable good only if their past experiences reliably forecast the good’s worth.²² Protecting against trademark infringement, from this vantage point, thus prevents others from trading on the goodwill that the trademark represents and helps consumers be certain that they can easily find the products they seek.²³ In all of these ways, trademarks reduce consumers’ search costs—the expenditures they must make to discern important qualities of goods or services—which are frequently hard to measure.²⁴

Trademarks, then, ought to promote trade and enable consumer decisionmaking. To achieve this goal, trademark law guards against using a too-similar mark that causes consumer confusion about the origins of goods or services.²⁵

In light of trademark’s general focus on consumers in the marketplace,²⁶ it is not surprising that the law focuses on consumers—typically real rather

protectable trademark). See generally Deven R. Desai, *From Trademarks to Brands*, 64 FLA. L. REV. 981 (2012) (discussing brands as a unifying principle for the modern Lanham Act).

18. 15 U.S.C. § 1127. Likewise, under a more recent addition to the law, they are protectable if a person has a “bona fide intention to use [them] in commerce and applies to register [them] on the principal register established by [federal law].” *Id.*

19. *Id.* §§ 1058–1059.

20. McKenna, *supra* note 13.

21. Frank I. Schechter, *The Rational Basis of Trademark Protection*, 40 HARV. L. REV. 813, 818 (1927).

22. Landes & Posner, *supra* note 13, at 269–70.

23. See Robert G. Bone, *Hunting Goodwill: A History of the Concept of Goodwill in Trademark Law*, 86 B.U. L. REV. 547, 549 (2006); Stacey L. Dogan & Mark A. Lemley, *Trademarks and Consumer Search Costs on the Internet*, 41 HOUS. L. REV. 777, 786–88 (2004).

24. Barton Beebe, *The Semiotic Analysis of Trademark Law*, 51 UCLA L. REV. 621, 623 (2004); Nicholas S. Economides, *The Economics of Trademarks*, 78 TRADEMARK REP. 523, 525–27 (1988). But see Mark P. McKenna, *A Consumer Decision-Making Theory of Trademark Law*, 98 VA. L. REV. 67 (2012).

25. See Graeme B. Dinwoodie, *The Death of Ontology: A Teleological Approach to Trademark Law*, 84 IOWA L. REV. 611, 614 (1999).

26. Courts and trademark owners have increasingly sought to ground trademarks not in consumer protection but in a theory of trademarks as property. For criticism of this trend, see Mark A. Lemley, *The Modern Lanham Act and the Death of Common Sense*, 108 YALE L.J. 1687 (1999), and Lemley & McKenna, *supra* note 4.

than hypothetical consumers—as its audience for infringement. There is a real customer base for branded products, and because the goal of trademarks is to protect customers from fraud, it is intuitive to focus on how those consumers will actually react. The basic test for trademark infringement is a multifactor test measuring the likelihood of confusion between the goods at issue. It asks whether real consumers are actually confused and also looks to other factors, like similarity of the marks, proximity of the goods, and the defendant's intent in selecting the mark.²⁷ Some of these factors, like evidence of actual confusion, rely on what the consumer thinks directly. Other factors, such as proximity of the goods or similarity of the marks, appear to demand the vantage point of the consumer, but courts sometimes rely on experts to tell us what consumers think.²⁸ Yet other factors, notably intent, focus on the defendant's behavior rather than on the consumer's reaction. Nonetheless, overall, the consumer vantage point is the touchstone of trademark infringement analysis.²⁹

Likelihood of confusion is a question of fact that is generally presented to the jury.³⁰ Trademark cases sometimes feature consumer surveys and evidence of actual consumer confusion, thereby allowing the jury to obtain evidence of how actual consumers in the market have reacted to the defendant's brand in relation to the plaintiff's.³¹ In many cases, however, the jury itself might stand in for the consumer.³² Jurors may have experience with the

27. According to a leading case, the major relevant factors are “1. strength of the mark; 2. proximity of the goods; 3. similarity of the marks; 4. evidence of actual confusion; 5. marketing channels used; 6. type of goods and the degree of care likely to be exercised by the purchaser; 7. defendant's intent in selecting the mark; and 8. likelihood of expansion of the product lines.” *AMF Inc. v. Sleekcraft Boats*, 599 F.2d 341, 348–49 (9th Cir. 1979).

28. *Compare Visible Sys. Corp. v. Unisys Corp.*, 551 F.3d 65, 73 (1st Cir. 2008) (crediting expert testimony to assess whether consumers of enterprise modeling and architecture software would find the parties' products to be similar), *and Rolex Watch USA, Inc., v. Meece*, 158 F.3d 816, 830–31 (5th Cir. 1998) (holding that expert testimony on the context in which consumers would evaluate watch marks was relevant to the likelihood of confusion), *with Amoco Oil Co. v. Rainbow Snow, Inc.*, 809 F.2d 656, 659, 662–63 (10th Cir. 1987) (considering as relevant advertising and designer experts' viewpoint on both the similarity of the visual impact of “Rainbow Snow” mark for snow cone business to “Rainbo” mark for oil company and the distinctiveness of the “Rainbo” mark).

29. *E.g.*, *Crystal Entm't & Filmworks, Inc. v. Jurado*, 643 F.3d 1313, 1323 (11th Cir. 2011); *Hensley Mfg., Inc. v. Propride, Inc.*, 579 F.3d 603, 610 (6th Cir. 2009). Barton Beebe has shown that in practice, proximity of goods, similarity of marks, and defendant's intent were the driving factors in trademark infringement decisions; indeed, these factors were far more important than survey evidence of actual consumers. *See* Barton Beebe, *An Empirical Study of the Multifactor Tests for Trademark Infringement*, 94 CALIF. L. REV. 1581 (2006).

30. *Pirone v. MacMillan, Inc.*, 894 F.2d 579, 584 (2d Cir. 1990).

31. *See* 4 J. THOMAS MCCARTHY, MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 23:17 (4th ed. 2013) (discussing survey evidence). *But cf.* Beebe, *supra* note 29, at 1640–42 (showing that parties presented survey evidence in only 20 percent of a sample of decided cases, contrary to conventional wisdom).

32. *See, e.g.*, Michael Grynberg, *The Judicial Role in Trademark Law*, 52 B.C. L. REV. 1283, 1283–84 (2011) (“To measure ‘likelihood of confusion,’ fact finders must put themselves in the shoes of relevant consumers while accommodating the effect of their own conceptions.”).

brands in question or at least may have encountered sufficiently similar issues while shopping to allow them to make a realistic assessment of whether they would be confused. And while they are not instructed to do so, it may be inevitable that a juror with her own view from experience about whether two brands are confusingly similar will be influenced by that view.³³

It is important to recognize, however, that there are systematic ways in which the jury's perspective is likely to diverge from that of actual consumers. Actual consumers may vary in the time they devote to making a purchasing decision depending on the nature of the product. Jurors, by contrast, will focus sustained attention on differences between the plaintiff's and defendant's brands over the course of a trial, and they may accordingly be more likely to pick up on differences between those brands than would a consumer, who may give the product only a casual look on a crowded store shelf. Thus, to follow the prescribed test of looking to the views of actual consumers in the marketplace, jurors need to channel the real consumer audience by disregarding their own considered views in favor of an assessment of what their (or another's) first instinct would have been.

Furthermore, while many trademark cases involve products sold to the general consuming public, others involve specialized audiences, such as computer makers who buy semiconductor chips.³⁴ In the latter cases, likelihood of confusion among those consumers depends critically on jurors applying the perspective of the actual purchasers of the goods at issue (computer makers, in this example) rather than their own.³⁵ Trademark law accounts for this situation by looking to actual consumers' confusion and including "consumer sophistication" as a factor in the analysis.³⁶ To do their job right, the jurors in such a case would need to ascertain what these consumers think, not what they themselves think.

Yet the divergence between juror and consumer is more systematic than simply adopting the mindset of different purchasers. Trademark law holds that a brand infringes even if the overwhelming majority of consumers aren't confused; indeed, a mark can be infringing if only 10 percent are confused.³⁷ Thus, even jurors who have personal experience with a product

33. Studies show that jurors often rely on their life experiences to help them evaluate information presented at trial and, more generally, to make their decisions. See, e.g., Nancy J. King, *Postconviction Review of Jury Discrimination: Measuring the Effects of Juror Race on Jury Decisions*, 92 MICH. L. REV. 63, 78 (1993); Nancy Pennington & Reid Hastie, *Reasoning in Explanation-Based Decision Making*, 49 COGNITION 123, 126 (1993); Marla Sandys et al., *Taking Account of the "Diminished Capacities of the Retarded": Are Capital Jurors Up to the Task?*, 57 DEPAUL L. REV. 679, 694-95 (2008).

34. See *Intel Corp. v. Advanced Micro Devices, Inc.*, 756 F. Supp. 1292 (N.D. Cal. 1991) (presenting the issue of whether "386" was a generic term for semiconductor chip architecture).

35. See *id.* at 1293-95.

36. See, e.g., *AMF Inc. v. Sleekcraft Boats*, 599 F.2d 341, 348, 353 (9th Cir. 1979).

37. See *Henri's Food Prods. Co. v. Kraft, Inc.*, 717 F.2d 352, 358 (7th Cir. 1983); cf. *Mushroom Makers, Inc. v. R.G. Barry Corp.*, 580 F.2d 44, 47 (2d Cir. 1978) (per curiam) ("[T]he crucial issue . . . is whether there is any likelihood that an appreciable number of

or brand must disregard that knowledge to an extent and instead put themselves in the mindset of the least sophisticated subset of consumers.

In sum, trademark law primarily chooses the consumer as its audience in ascertaining infringement, but the consumer's perspective is filtered through rules that can skew that perspective.

More recent developments in trademark law have threatened to move the law's focus away from consumers and toward brand owners themselves. The doctrine of dilution—providing owners of famous marks with protection against others' use of their mark, even if consumers are not confused³⁸—and the idea that there is a right to control merchandising of products labeled with a brand³⁹ both focus less on consumer perception and more on the idea that the brand is a form of property over which the trademark owner ought to have plenary control.⁴⁰ The move away from an explicit focus on confusion is controversial, and many have criticized dilution and merchandising for doing just that.⁴¹ But even these more producer-oriented theories of trademark law require some means for assessing infringement. “Coke” may be a famous mark with strong rights to prevent dilution even in the absence of consumer confusion, but a competitor using the term “Pepsi” presumably doesn't dilute the “Coke” mark. Determining whether dilution exists, like determining likelihood of confusion, requires both a metric for similarity and an audience to apply that metric.⁴² So while these new theories may broaden the scope of trademark owners' rights, they do not change the fact that an audience must evaluate those rights.⁴³

ordinarily prudent purchasers [will] be misled . . .”). See generally ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 882 (6th ed. 2012).

38. 15 U.S.C. § 1125(c) (2012).

39. See generally Stacey L. Dogan & Mark A. Lemley, *The Merchandising Right: Fragile Theory or Fait Accompli?*, 54 EMORY L.J. 461 (2005) (describing the origins of the “merchandising right theory”).

40. See Sonia K. Katyal, *Trademark Intersectionality*, 57 UCLA L. REV. 1601, 1684 (2010) (arguing that modern trademark law “vacillate[s] between the captive attention of three spheres: the sphere of the potential consumer, the corporate producer, and the larger audience”).

41. E.g., Dogan & Lemley, *supra* note 39; Lemley & McKenna, *supra* note 4; see also Rebecca Tushnet, *Gone in Sixty Milliseconds: Trademark Law and Cognitive Science*, 86 TEX. L. REV. 507 (2008) (criticizing the cognitive theories used to support dilution).

42. The nominal metric for similarity in dilution cases is “association,” 15 U.S.C. § 1125(c), but it cannot be the case that association is sufficient similarity for dilution. Saying “Pepsi” may well make people think of “Coke,” which is association of a sort, but not the sort that dilution law would condemn.

43. In some respects, dilution and merchandising may make the consumer-audience issues we discussed above easier. Consumers for a specific product may be a specialized group with knowledge that jurors are unlikely to possess. By contrast, dilution law requires that the mark be “widely recognized by the general consuming public,” 15 U.S.C. § 1125(c)(2), so jurors are more likely to be familiar with the marks at issue. The same is true of merchandising, which (so far at least) has been limited primarily to the sports and university contexts. See Lemley, *supra* note 26.

B. *Patent Law*

Unlike trademark law, patent law exists to encourage scientific and technological innovation for society's benefit. Patent law sets the expert as the target audience in IP infringement.

American patent law protects inventors of useful, novel, and nonobvious inventions.⁴⁴ Patents are granted after they successfully undergo examination by the U.S. Patent and Trademark Office, which considers whether an invention meets patentability conditions and whether the description in the patent application satisfies certain disclosure requirements.⁴⁵ The patent right permits the patentee to exclude others from practicing the patent's claimed invention for a limited time, typically twenty years from the date the patent application was filed.⁴⁶

Utilitarianism is the dominant justification for American patent law.⁴⁷ According to utilitarian theory, patent law provides inventors with the incentive of exclusive rights for a limited duration to motivate them to create technologically or scientifically valuable inventions. The theory is that public benefits accrue by rewarding inventors for taking two steps they likely would not otherwise take: to invent, and possibly commercialize, in the first place and to reveal to the public information about these inventions, which serves to stimulate further innovation.⁴⁸ 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," a utilitarian end.⁴⁹

The rights patent laws confer are designed to be limited in time and scope.⁵⁰ Providing patent protection to creators is intended to encourage them to produce socially valuable works, thereby maximizing social welfare.⁵¹ If patent rights are too strong, society will be hurt (and social welfare

44. 35 U.S.C. §§ 101–103 (2006).

45. *Id.* §§ 112, 131.

46. *Id.* § 154(a).

47. Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1597–99 (2003); *see also* *Diamond v. Chakrabarty*, 447 U.S. 303, 307 (1980) (discussing patent law as an incentive); *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 330–31 (1945) (noting that the patent system is designed to encourage invention for society's benefit).

48. Jeanne C. Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 547–48 (2009).

49. U.S. CONST. art. I, § 8, cl. 8.

50. Lemley, *supra* note 10, at 997.

51. *See* Ralph S. Brown, *Eligibility for Copyright Protection: A Search for Principled Standards*, 70 MINN. L. REV. 579, 592–96 (1985). Utilitarian thinking comes in different flavors besides the traditional incentive-to-invent story. One is the prospect theory, which suggests that inventors are rewarded with a patent right to centralize investment in the patented invention's commercialization and improvement, which in turn benefits society. Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 266 (1977). Related to that theory is advocacy for direct protection of commercialization because of its valuable role in diffusing inventions. *E.g.*, Michael Abramowicz & John F. Duffy, *Intellectual Property for Market Experimentation*, 83 N.Y.U. L. REV. 337 (2008); Ted Sichelman, *Commercializing Patents*, 62 STAN. L. REV. 341 (2010). For criticism of the commercialization theory, *see* Mark A. Lemley,

diminished).⁵² For one thing, exclusive rights in IP can prevent competition in protected works, allowing the rights holder to charge a premium for access and ultimately limiting valuable works' diffusion to society at large.⁵³ For another, given that knowledge is frequently cumulative, society benefits when subsequent creators can build on previous scientific and technological creations to generate new works.⁵⁴ For these reasons, patent laws ensure both that the works they protect fall into the public domain in due course and that third parties are free to use protected works for certain socially valuable purposes.⁵⁵

This overarching justification for patent law accords in significant ways with patent law's choice of the expert as the audience. Patent law requires patentees to include in their patent "one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor . . . regards as the invention."⁵⁶ The scope of the patent right—and thus the question whether a defendant's use has infringed a plaintiff's patent right—is based on these claims, which set out the metes and bounds of the patentee's invention.⁵⁷ A defendant infringes a plaintiff's patent if the fact finder determines that the patent claims, as construed by the court as a matter of law,⁵⁸ cover a use made by the defendant.⁵⁹

According to the Federal Circuit, claim terms are to be interpreted with the "meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application."⁶⁰ This meaning is based on the specific expert knowledge that the person having ordinary skill in the art ("PHOSITA") has combined with the contextual knowledge to be gleaned from reading the

The Myth of the Sole Inventor, 110 MICH. L. REV. 709 (2012). Another utilitarian approach is the signaling theory, which proposes that patents are useful signals to financiers that the patenting firm is a worthy investment. Clarisa Long, *Patent Signals*, 69 U. CHI. L. REV. 625, 636–37, 648 (2002); Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. PA. L. REV. 1, 37 (2005).

52. Lemley, *supra* note 10, at 996–97.

53. *Id.* at 996.

54. *See id.* at 997–98.

55. *See id.* at 999.

56. 35 U.S.C. § 112(b) (2006 & Supp. V 2011).

57. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc); Burk & Lemley, *supra* note 14, at 1745; Fromer, *supra* note 14, at 726.

58. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996) (holding that claim construction is to be done by the judge); *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454–56 (Fed. Cir. 1998) (building on *Markman* to hold that claim construction is a question of law, not fact).

59. *See Powell v. Home Depot U.S.A., Inc.*, 663 F.3d 1221, 1227 (Fed. Cir. 2011) (observing that infringement is to be decided by a jury, even while claim construction is to be determined by a judge).

60. *Phillips*, 415 F.3d at 1313. As one of us has pointed out elsewhere, "the time of invention" and "the filing date of the application" are not in fact the same. Mark A. Lemley, *The Changing Meaning of Patent Claim Terms*, 104 MICH. L. REV. 101, 102–05 (2005).

entire patent.⁶¹ The Federal Circuit has explained that it uses the PHOSITA as its audience because “patents are addressed to and intended to be read by others of skill in the pertinent art.”⁶²

To understand the meaning of claim terms from the PHOSITA’s vantage point, the Federal Circuit has indicated that courts ought to turn to the following evidence, in this order: the claim terms themselves; the rest of the patent document; the patent’s prosecution history; and, as a last resort, evidence extrinsic to the patent, such as expert and inventor testimony and technical treatises and dictionaries.⁶³ The Federal Circuit has explained that expert testimony “can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.”⁶⁴ But it is only useful to the extent that it does not contradict evidence intrinsic to the patent itself.⁶⁵

Even though courts do not prioritize extrinsic evidence offered by experts in construing patent claims, the PHOSITA—the expert—is still the audience through whose eyes the intrinsic evidence is examined.⁶⁶ But just who is the PHOSITA? According to the Federal Circuit, the relevant art for the PHOSITA is typically set based on the particular problem the inventor sought to solve.⁶⁷ The level of ordinary skill is based on six factors: “educational level of the inventor, type of problems encountered in the art, prior

61. *Phillips*, 415 F.3d at 1313–14.

62. *Id.* at 1313. The court has also emphasized that “[t]he importance of [the PHOSITA] lies in the necessity of maintaining objectivity” in analyzing patent validity. *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). For criticism of the PHOSITA standard as putatively objective while in fact instantiating a particular view of the inventive process, see Dan L. Burk, *Do Patents Have Gender?*, 19 AM. U. J. GENDER SOC. POL’Y & L. 881, 891–92 (2011).

63. *Phillips*, 415 F.3d at 1313–18.

64. *Id.* at 1318.

65. *Id.* at 1318–19. Extrinsic evidence—particularly evidence that is reconstructed for litigation or is not targeted toward PHOSITAs—is considered less reliable than intrinsic evidence because the goal is to reconstruct what a PHOSITA understood the claims to mean at the time of patenting. *Id.*

66. In that sense, one cannot rely on intrinsic evidence alone, if one needs to know how a PHOSITA would understand the patent contents itself. *Cf.* Timothy R. Holbrook, *Patents, Presumptions, and Public Notice*, 86 IND. L.J. 779, 789–92 (2011) (maintaining that the PHOSITA is de-emphasized in claim construction by prioritizing intrinsic over extrinsic evidence).

67. Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 BERKELEY TECH. L.J. 1155, 1188–89 (2002). For further discussion on the PHOSITA, see Eisenberg, *supra* note 5; Cyril A. Soans, *Some Absurd Presumptions in Patent Cases*, 10 PAT. TRADEMARK & COPYRIGHT J. RES. & EDUC. 433, 438 (1966); John O. Tresansky, *PHOSITA—The Ubiquitous and Enigmatic Person in Patent Law*, 73 J. PAT. & TRADEMARK OFF. SOC’Y 37 (1991); and Joseph P. Meara, Comment, *Just Who Is the Person Having Ordinary Skill in the Art? Patent Law’s Mysterious Personage*, 77 WASH. L. REV. 267 (2002).

art solutions, rapidity of innovation, sophistication of technology, and educational level of active workers in the field.”⁶⁸ The PHOSITA is “not . . . the judge, or . . . a layman, or . . . those skilled in remote arts, or . . . [even] geniuses in the art at hand.”⁶⁹ Nor is the PHOSITA an actual inventor.⁷⁰ Instead, the PHOSITA is a “juridical doppelganger,”⁷¹ a “hypothetical person who is presumed to be aware of all the pertinent prior art.”⁷² This hypothetical PHOSITA also possesses ordinary creativity.⁷³

The principal way of proving patent infringement is by determining that the defendant’s use falls within the literal scope of the patent claims.⁷⁴ But that is not the only way. Infringement can also be found for uses that fall outside the patent claims’ scope under patent law’s doctrine of equivalents.⁷⁵ According to the Supreme Court, a patentee can “claim those insubstantial alterations that were not captured in drafting the original patent claim but which could be created through trivial changes.”⁷⁶ Courts determine equivalence with reference to

the purpose for which [a claim element] is used in a patent, the qualities it has when combined with the other [elements], . . . the function which it is intended to perform[, and] whether persons reasonably skilled in the art would have known of the interchangeability of an [element] not contained in the patent with one that was.⁷⁷

Therefore, infringement pursuant to the doctrine of equivalents is also assessed using the PHOSITA as the relevant audience.⁷⁸

Expert audiences, then, are at the center of patent infringement cases because patent law asks the fact finder to determine whether two things are technically equivalent.⁷⁹ That being said, there are some ways the fact finder can employ an audience other than the expert to assess infringement. For one thing, when the fact finder is asked to determine infringement, she must

68. *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 449–50 (Fed. Cir. 1986).

69. *Envtl. Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 697 (Fed. Cir. 1983).

70. Jonathan J. Darrow, *The Neglected Dimension of Patent Law’s PHOSITA Standard*, 23 *HARV. J.L. & TECH.* 227, 235–36 (2009).

71. Burk & Lemley, *supra* note 67, at 1187; *accord* Janis & Holbrook, *supra* note 5, at 90 (calling the PHOSITA a “constructed audience[]”).

72. *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985).

73. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

74. *See London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538–39 (Fed. Cir. 1991) (“Application of the doctrine of equivalents is the exception . . . not the rule . . .”).

75. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 733 (2002).

76. *Id.*

77. *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 609 (1950).

78. Burk & Lemley, *supra* note 67, at 1187.

79. Similarity is essential to all aspects of the patent-infringement inquiry: in assessing whether claim terms encompass the defendant’s use, courts must determine how similar the defendant’s use is to those claim terms. Similarity is used more overtly in making an inquiry under the doctrine of equivalents.

decide whether the defendant's use falls within the already-construed patent claim scope. There is no rule on whose perspective the fact finder should use to construe the function of the defendant's product or process. In this sense, the fact finder is afforded a minor opportunity to employ another audience as part of assessing infringement.⁸⁰

There are also some technological areas in which patent law does not in practice heed its general rule of choosing the expert as audience. The most notable example involves software patents. In this area, because the Federal Circuit allows software to be claimed based on its function rather than on its more detailed technical workings, infringement can be found when two computer programs serve the same function, even if the software works in very different ways.⁸¹ A consumer or ordinary reasonable observer might use the purpose the software serves to assess similarity more generally, but a software expert would not.⁸²

80. Cf. Lemley, *supra* note 60, at 108 ("Claim construction determines the scope of the patent, and the scope of the patent in turn determines whether it covers the defendant's product."). Moreover, in a number of patent-infringement cases, the judge does not fully construe the patent claim but instead leaves some construction issues to the jury to determine infringement. For example, in one case, a jury found infringement of a patent on an invention for an orthopedic nail with a "curved shank" for the treatment of fractures in the humerus. *Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 804 (Fed. Cir. 2007). The trial judge had construed "curved shank" to mean "a shank that has a bend or deviation from a straight line without sharp corners or sharp angles." *Id.* On appeal, the defendant challenged the construction as insufficiently definite because the district court had not specified how sharp is too sharp. *Id.* at 806. The Federal Circuit rejected that argument, reasoning that "a sound claim construction need not always purge every shred of ambiguity. The resolution of some line-drawing problems—especially easy ones like this one—is properly left to the trier of fact." *Id.* Applying this reasoning, the Federal Circuit held that "the accused product has a rounded-off six-degree angle in its shaft. A reasonable jury could have found that in the context of this sort of nail, a rounded bend of six degrees was not a 'sharp angle.'" *Id.* Similarly, courts will not always construe claim terms, concluding instead that the term is simple enough that the jury can understand it. In such a case, it is the jury, not the court, that will assess similarity. But while "construing the construction" gives some freedom to juries to decide what constitutes infringement, the Federal Circuit has increasingly been going the other way, holding that any dispute over the meaning of a construed claim term is a dispute of claim construction, not infringement, and therefore must be resolved by the judge rather than the jury. *Cordis Corp. v. Bos. Scientific Corp.*, 658 F.3d 1347, 1356 (Fed. Cir. 2011); *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008).

81. See Mark A. Lemley, *Software Patents and the Return of Functional Claiming*, 2013 WIS. L. REV. 905; see also Colleen V. Chien & Aashish R. Karkhanis, *Functional Claiming and Software Patents* (Santa Clara Univ. Sch. of L. Legal Studies Research Papers Series, Paper No. 06-13, 2013), available at <http://ssrn.com/abstract=2215867> (providing empirical evidence of overbroad functional claiming in software); cf. Jeanne C. Fromer, *The Layers of Obviousness in Patent Law*, 22 HARV. J.L. & TECH. 75, 95–98 (2008) (arguing that obviousness in patent law ought not to be assessed with regard to software's function, as the Federal Circuit has sometimes suggested, but rather with regard to its conceptualization and implementation).

82. See *z4 Techs., Inc. v. Microsoft Corp.*, 434 F. Supp. 2d 437, 441 (E.D. Tex. 2006) (referring to "core functionality" as the purpose for which "software is purchased by consumers").

With few exceptions, then, the expert is the audience for patent infringement.⁸³ For this audience choice to work, the fact finder must be able to put herself in the position of the expert. Patent law tries to address this challenge by relying on expert witnesses to explain the technology while limiting the amount of post hoc expert testimony on the meaning of patent claims and relying instead on documentary materials in existence at the time of patent filing.⁸⁴ Patent law also gives the judge the role of assigning meaning to patent terms. Even though that job is really fact finding, not legal interpretation,⁸⁵ it is arguably better suited to judges than juries because of their increased exposure to patent-infringement suits.⁸⁶

C. Copyright Law

Copyright law's goals are relatively similar to patent law's, although copyright is directed at artistic works rather than scientific and technological works. Copyright law sometimes uses the expert as the audience, at other times the consumer, and at still other times the reasonable ordinary observer.

Copyright law protects "original works of authorship fixed in any tangible medium of expression," including literary works, sound recordings,

83. For some patent claims, the relevant audience for infringement is instead a legal expert. See ROBERT P. MERGES & JOHN F. DUFFY, *PATENT LAW AND POLICY* 28 (6th ed. 2013). This is most frequently an artifact of patent claim construction. While we generally construe patent claims from the perspective of a PHOSITA, we have certain words to which we assign legal meanings regardless of what experts would understand those words to mean. See *id.* For instance, patent law defines the term "comprising" as being open ended, so that the addition of other elements beyond those listed in the patent claim does not avoid infringement. By contrast, the term "consisting of" is closed, requiring the listed elements and only those elements. *Id.* Similarly, the term "means" in a patent claim creates a rebuttable presumption that the claim element is a "means-plus-function" claim to which very different rules of infringement apply. John M. Golden, *Construing Patent Claims According to Their "Interpretive Community": A Call for an Attorney-Plus-Artisan Perspective*, 21 HARV. J.L. & TECH. 321, 338 (2008). No engineer is likely to understand these differences unless he has been talking to patent lawyers. Rather, it is the patent lawyer, both as drafter of patent claims and as reader, who is the audience for these terms. See *id.* at 334.

84. Because patent cases are litigated well after the date of invention, John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 237 (1998) (finding the average lag to be twelve years), looking to resources dating back to patent creation can help with hindsight bias, which is a very real concern in assessing the obviousness of an invention. Gregory N. Mandel, *Patently Non-Obvious: Empirical Demonstration That the Hindsight Bias Renders Patent Decisions Irrational*, 67 OHIO ST. L.J. 1391 (2006). Because the real expert is likely to be someone working today, not years ago, fact finders may be more likely to focus implicitly on what the expert knows today, not what experts knew at the time of invention. The use of a hypothetical expert may help fact finders abstract away from hindsight bias.

85. See, e.g., Jeanne C. Fromer, *Patentography*, 85 N.Y.U. L. REV. 1444, 1473–76 (2010); Arti K. Rai, *Specialized Trial Courts: Concentrating Expertise on Fact*, 17 BERKELEY TECH. L.J. 877, 879 (2002).

86. See Fromer, *supra* note 85, at 1473–76.

movies, and computer software code.⁸⁷ To obtain copyright protection, authors need only create a qualifying work.⁸⁸ A copyright holder receives the exclusive right to reproduce the work, distribute copies of it, and prepare derivative works, among other things,⁸⁹ typically until seventy years after the author's death.⁹⁰ Copyright protection extends to the *expression* of particular ideas rather than to the ideas themselves.⁹¹ Protection actually reaches well beyond the literal work to works that are copied only in part or are substantially similar,⁹² "else a plagiarist would escape by immaterial variations."⁹³

Utilitarianism has been the dominant justification for American copyright law.⁹⁴ According to utilitarian theory, copyright law provides authors with the incentive of exclusive rights for a limited duration to motivate them to create culturally valuable works.⁹⁵ Without this incentive, the theory goes, authors might not invest the time, energy, and money necessary to create these works for fear that free riders might cheaply and easily copy them, thereby eliminating the authors' ability to profit from their works.⁹⁶ As with patent law, the rights conferred by copyright laws are designed to be limited in time and scope to ensure both that the works they protect fall into the public domain in due course and that third parties are free to use protected works for socially valuable purposes.⁹⁷

Copyright infringement exists when a defendant actually copied the plaintiff's copyrighted work in a way that rises to the level of an improper appropriation. To determine improper appropriation, we ask whether two works are substantially similar.⁹⁸ Circuit courts differ on the audiences they

87. 17 U.S.C. §§ 101, 102(a) (2012).

88. *Id.* § 102(a) (requiring only that a work be fixed in "any tangible medium of expression" to be copyrightable).

89. *Id.* § 106.

90. *Id.* § 302(a).

91. *Id.* § 102(b); *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930).

92. *Corwin v. Walt Disney Co.*, 475 F.3d 1239, 1253 (11th Cir. 2007); *Whitehead v. Paramount Pictures Corp.*, 53 F. Supp. 2d 38, 46 (D.D.C. 1999).

93. *Nichols*, 45 F.2d at 121.

94. *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 558 (1985); 122 CONG. REC. 2834 (1976) (statement of Sen. John McClellan); Shyamkrishna Balganes, *Foreseeability and Copyright Incentives*, 122 HARV. L. REV. 1569, 1576–77 (2009); William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325, 326 (1989).

95. Stewart E. Sterk, *Rhetoric and Reality in Copyright Law*, 94 MICH. L. REV. 1197, 1197 (1996).

96. Symposium, *The Constitutionality of Copyright Term Extension: How Long Is Too Long?*, 18 CARDOZO ARTS & ENT. L.J. 651, 676 (2000) (statement of Wendy Gordon); Alina Ng, *The Author's Rights in Literary and Artistic Works*, 9 J. MARSHALL REV. INTELL. PROP. L. 453, 453 (2009).

97. Lemley, *supra* note 10, at 999.

98. We frequently also ask whether the works are similar to assess circumstantially whether the defendant's work actually copied from the plaintiff's. *E.g.*, *Cavalier v. Random House, Inc.*, 297 F.3d 815, 822 (9th Cir. 2002); *Laureyssens v. Idea Group, Inc.*, 964 F.2d 131, 139–40 (2d Cir. 1992). Independent creation by the defendant is therefore a complete defense

use as the reference point for determining substantial similarity, a decision that often depends on the type of copyrighted work at issue. We detail the different approaches of the Second, Fourth, and Ninth Circuits. Most other circuits follow either the Second or Ninth Circuit in determining substantial similarity.⁹⁹

The Second Circuit generally considers the ordinary lay observer as the relevant audience, although sometimes it uses a more discerning ordinary observer or an expert in the relevant subject matter. In the foundational case of *Arnstein v. Porter*, the singer Cole Porter was sued for copyright infringement of the plaintiff's musical compositions.¹⁰⁰ On the question of whether Porter improperly appropriated the plaintiff's work, the court held that "the test is the response of the ordinary lay hearer; accordingly, on that issue, 'dissection' and expert testimony are irrelevant."¹⁰¹ The court explained why it chose this audience:

The proper criterion on that issue is not an analytic or other comparison of the respective musical compositions as they appear on paper or in the judgment of trained musicians. The plaintiff's legally protected interest is not, as such, his reputation as a musician but his interest in the potential financial returns from his compositions which derive from the lay public's approbation of his efforts. The question, therefore, is whether defendant took from plaintiff's works 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 appropriated something which belongs to the plaintiff.¹⁰²

The court called this as a question of fact for the jury, noting the jury's "peculiar[] fit[ness] to determine" this question.¹⁰³ Without expressly saying as much, the court seemed to see the jury as representative of the consumer, so much so that it indicated that it would "be proper to exclude tone-deaf persons from the jury," as they would no longer be typical consumers.¹⁰⁴ The court also intimated that a judge would be unlikely to be a consumer of popular music and therefore that a judge trying such a case ought to employ an advisory jury.¹⁰⁵ This reasoning seemingly suggests that typical consumers of the work ought to be the audience, even though the Second Circuit

to copyright infringement. *Procter & Gamble Co. v. Colgate-Palmolive Co.*, 199 F.3d 74, 77 (2d Cir. 1999) (per curiam). While using similarity to gauge actual copying also requires a choice of audience, its ultimate purpose is distinct and is beyond the scope of this Article.

99. See generally ROBERT C. OSTERBERG & ERIC C. OSTERBERG, *SUBSTANTIAL SIMILARITY IN COPYRIGHT LAW* §§ 3.1–3.2 (2013); Mark A. Lemley, *Our Bizarre System for Proving Copyright Infringement*, 57 J. COPYRIGHT SOC'Y 719 (2010).

100. 154 F.2d 464, 467 (2d Cir. 1946).

101. *Arnstein*, 154 F.2d at 468. As to whether there was actual copying in the first place, dissection and expert testimony are allowed to show that similarities exist that are unlikely to have occurred by chance or by convention. *Id.*

102. *Id.* at 473 (footnotes omitted).

103. *Id.*

104. *Id.* at 473 & n.22.

105. See *id.* at 473.

cases applying *Arnstein* consistently specify a different audience construct: the ordinary observer.¹⁰⁶

According to *Arnstein*, expert testimony would be permissible on the question of improper appropriation but only to help the jury determine the reaction of ordinary lay listeners.¹⁰⁷ In this instance, the *Arnstein* court recognized the translation problem for fact finders: even juror-consumers may need expert testimony that focuses on how consumer attitudes as a group potentially differ from the attitudes of individual jurors. Otherwise, the Second Circuit—with more than a whiff of elitism—thought that expert views would be irrelevant:

The impression made on the refined ears of musical experts or their views as to the musical excellence of plaintiff's or defendant's works are utterly immaterial on the issue of misappropriation; for the views of such persons are caviar to the general—and plaintiff's and defendant's compositions are not caviar.¹⁰⁸

In a dissent, Judge Clark stated that the majority's test for substantial similarity was too cramped. He would have allowed for dissection and expert testimony.¹⁰⁹ He reasoned that “[m]usic is a matter of the intellect as well as the emotions; that is why eminent musical scholars insist upon the employment of the intellectual faculties for a just appreciation of music.”¹¹⁰ Moreover, he expressed skepticism about the lay jury's ability to identify improper appropriation:

I should not have thought it pre-eminently fitted to decide questions of musical values, certainly not so much so that an advisory jury should be brought in if no other is available. And I should myself hesitate to utter so clear an invitation to exploitation of slight musical analogies by clever musical tricks in the hope of getting juries hereafter in this circuit to divide the wealth of Tin Pan Alley.¹¹¹

106. See, e.g., *Boisson v. Banian, Ltd.*, 273 F.3d 262, 272 (2d Cir. 2001).

107. *Arnstein*, 154 F.2d at 473.

108. *Id.* (footnotes omitted). In stating that such persons “are caviar to the general,” the court acted doubly elitist in quoting from *Hamlet* without citing it. See WILLIAM SHAKESPEARE, *HAMLET* act 2, sc. 2. One of us has argued that the court's approach is exactly backwards, asking experts to decide things ordinary observers could determine and eschewing these experts where they are most needed—in deciding what is protectable about the work. Lemley, *supra* note 99, at 719.

109. *Arnstein*, 154 F.2d at 476–77 (Clark, J., dissenting).

110. *Id.* at 476 (footnote omitted).

111. *Id.* at 479. It seems clear that plaintiff Ira Arnstein himself was engaged in such trickery; his theory of how Porter got ahold of his obscure songs was laughable, and the dissent made its case by citing almost exclusively other Second Circuit cases that Arnstein brought himself, suggesting that he was a frequent filer rather than someone with a real claim. See *id.* at 475–80. See generally GARY A. ROSEN, *UNFAIR TO GENIUS: THE STRANGE AND LITIGIOUS CAREER OF IRA B. ARNSTEIN* (2012).

Since *Arnstein*, the Second Circuit has held that the relevant copyright infringement audience is the reasonable ordinary lay observer,¹¹² describing the test for similarity as whether “the ordinary observer, unless he set out to detect the disparities, would be disposed to overlook them, and regard their aesthetic appeal as the same.”¹¹³

The Second Circuit has created a different rule for infringement cases involving software. In software cases, because the ordinary lay observer lacks sufficient understanding to compare the parties’ “highly complicated and technical” software for similarity, the fact finder need not use the ordinary lay observer as the audience.¹¹⁴ Instead, the software expert becomes the proper audience.¹¹⁵ The Second Circuit has also suggested more generally that expert testimony might be relevant when dealing with “art forms [that are not] readily comprehensible and generally familiar to the average lay person.”¹¹⁶

The Ninth Circuit has adopted a different two-part framework for assessing substantial similarity, using both the expert and the ordinary reasonable observer as the relevant audience. It applies both extrinsic and intrinsic tests, finding infringement only if both indicate similarity.¹¹⁷ The extrinsic test objectively compares the expressive elements of the two works at issue, examining such elements as “articulable similarities between the plot, themes, dialogue, mood, setting, pace, characters, and sequence of events.”¹¹⁸ This comparison allows dissection of the works and often involves expert testimony on an expert’s point of view,¹¹⁹ thereby using the expert as its audience. By contrast, the intrinsic test is a “subjective comparison that focuses on ‘whether the ordinary, reasonable audience’ would find the works

112. *E.g.*, *Computer Assocs. Int’l, Inc. v. Altai, Inc.*, 982 F.2d 693, 713 (2d Cir. 1992); *Walker v. Time Life Films, Inc.*, 784 F.2d 44, 51 (2d Cir. 1986).

113. *Boisson v. Banian*, 273 F.3d 262, 272 (2d Cir. 2001) (quoting *Folio Impressions v. Byer Cal.*, 937 F.2d 759, 765 (2d Cir. 1991)) (internal quotation marks omitted). Despite disallowing the dissection of works to evaluate similarity, the Second Circuit has indicated that “a ‘more refined analysis’ is required where a plaintiff’s work is not ‘wholly original,’ but rather incorporates elements from the public domain” because otherwise infringement might be found based on similarity of public-domain elements of the parties’ works. *See id.* (quoting *Key Publ’ns, Inc. v. Chinatown Today Publ’g Enters., Inc.*, 945 F.2d 509, 514 (2d Cir. 1991)). In this case, a “more discerning” ordinary observer acts as the audience, asking if there is “substantial similarity between those elements, and only those elements, that provide copyrightability to the allegedly infringed compilation.” *Id.* (quoting *Key Publ’ns, Inc. v. Chinatown Today Publ’g Enters., Inc.*, 945 F.2d 509, 514 (2d Cir. 1991)) (internal quotation marks omitted). But the audience is still an ordinary observer, not an expert.

114. *Altai*, 982 F.2d at 713.

115. *Id.* at 713–14.

116. *Id.* at 713.

117. *Sid & Marty Krofft Television Prods., Inc. v. McDonald’s Corp.*, 562 F.2d 1157, 1162–65 (9th Cir. 1977).

118. *Cavalier v. Random House, Inc.*, 297 F.3d 815, 822 (9th Cir. 2002) (quoting *Kouf v. Walt Disney Pictures & Television*, 16 F.3d 1042, 1045 (9th Cir. 1994)) (internal quotation marks omitted).

119. *Three Boys Music Corp. v. Bolton*, 212 F.3d 477, 485 (9th Cir. 2000).

substantially similar in the ‘total concept and feel of the works.’”¹²⁰ This test uses the ordinary reasonable observer as the audience, and accordingly it does not allow for expert testimony.¹²¹ The Ninth Circuit uses the extrinsic test with analytic dissection to determine the fact of copying and the holistic intrinsic test to determine whether that copying was in fact unlawful.¹²²

Although the intrinsic test is usually judged from the perspective of the ordinary observer, the Ninth Circuit sometimes instead uses the consumer as its audience for this test.¹²³ For example, rather than employing an ordinary reasonable observer, the Ninth Circuit considered video games to require an “extraordinary observer” as the audience: “a discerning 17.5 year-old boy.”¹²⁴

As the Ninth Circuit did with video games, the Fourth Circuit has adopted the consumer as audience across its range of copyright infringement cases. The Fourth Circuit discussed the issue at length in *Dawson v. Hinshaw Music Inc.*, a copyright infringement case over a spiritual song:

When conducting the second prong of the substantial similarity inquiry, a district court must consider the nature of the intended audience of the plaintiff’s work. If, as will most often be the case, the lay public fairly represents the intended audience, the court should apply the lay observer formulation of the ordinary observer test. However, if the intended audience is more narrow in that it possesses specialized expertise, relevant to the purchasing decision, that lay people would lack, the court’s inquiry should focus on whether a member of the intended audience would find the two works to be substantially similar.¹²⁵

The *Dawson* court opined that the Second Circuit had misread *Arnstein* as always requiring an ordinary observer as audience when in fact *Arnstein* intended that the consumer—sometimes an ordinary observer, sometimes

120. *Cavalier*, 297 F.3d at 822 (quoting *Kouf v. Walt Disney Pictures & Television*, 16 F.3d 1042, 1045 (9th Cir. 1994)).

121. See *Three Boys Music*, 212 F.3d at 485.

122. See Lemley, *supra* note 99 (arguing that this is backwards).

123. E.g., *Data East USA, Inc. v. Epyx, Inc.*, 862 F.2d 204, 209–10, 210 n.6 (9th Cir. 1988). One complication is that the plaintiff’s and defendant’s works might be directed at different markets. The audience for Roy Orbison’s song “Oh, Pretty Woman,” for instance, may overlap only slightly with the audience for 2 Live Crew’s rap song “Pretty Woman.” See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569 (1994). In such a case, courts relying on a consumer audience will have to identify the correct audience for infringement purposes.

124. *Data East*, 862 F.2d at 209–10, 210 n.6.

125. 905 F.2d 731, 736–37 (4th Cir. 1990) (remanding the issue of whether a spiritual song should be judged by a lay observer or under a specialized observer test); *accord Lyons P’ship v. Morris Costumes, Inc.*, 243 F.3d 789, 801 (4th Cir. 2001).

not—serve as the audience: “In light of the copyright law’s purpose of protecting a creator’s market, we think it sensible to embrace *Arnstein*’s command that the ultimate comparison of the works at issue be oriented towards the works’ intended audience.”¹²⁶

Copyright law’s use of varied infringement audiences is confused and often depends on the particular circuit deciding the case. As a general matter, however, copyright uses a hybrid test, drawing on both the perspective of the expert and that of a nonexpert observer (either the consumer or the ordinary person).¹²⁷

D. Design Patent Law

As Jason Du Mont and Mark Janis observe, design patents occupy an awkward position in the IP pantheon.¹²⁸ They are, as their name suggests, a form of patent law, and the legal structure of the right is set up as a patent right. Design patents are granted only if the design is new, original, ornamental, and nonobvious,¹²⁹ and infringement cases proceed by comparing the claims of the design patent to the accused design.¹³⁰ But the history and motivation for design patent law is influenced as much by trademark and unfair competition rationales as by the goal of encouraging the creation of new designs as an end in itself.¹³¹ And to the extent that encouraging new designs is a purpose behind design patent law, copyright, not utility patents, seems a more apt parallel.¹³² So design patents are in some sense an amalgam of utility patents, copyrights, and trademarks.

This doctrinal confusion is reflected in the process of selecting the audience for design patents. As we have seen, patent and trademark are virtual antipodes when it comes to the audience used to assess infringement. Patent law focuses on a hypothetical audience of experts, while trademark law ostensibly cares about both actual consumers’ reactions and the defendant’s subjective intent.

The test for infringement of a design patent draws much more from trademark than from patent law. Infringement is judged “in the eye of an

126. *Dawson*, 905 F.2d at 734. Similarly, the D.C. Circuit has questioned, although not resolved, whether different—expert—observers should be the audience for copyright infringement of architectural works. *Sturdza v. United Arab Emirates*, 281 F.3d 1287, 1300–01 (D.C. Cir. 2002).

127. Copyright also requires an audience—at least implicitly—to resolve certain fair-use issues, such as whether a defendant’s use was “reasonably perceived” as a parody. David A. Simon, *Reasonable Perception and Parody in Copyright Law*, 2010 UTAH L. REV. 779, 780.

128. Jason J. Du Mont & Mark D. Janis, *The Origins of American Design Protection*, 88 IND. L.J. 837, 877–88 (2013).

129. 35 U.S.C. §§ 103, 171 (2006).

130. *Pac. Coast Marine Windshields Ltd. v. Malibu Boats, LLC*, 739 F.3d 694, 701 (Fed. Cir. 2014).

131. See Du Mont & Janis, *supra* note 128, at 843–46.

132. See *supra* Section I.C.

ordinary observer, giving such attention as a purchaser usually gives.”¹³³ This test evokes an actual audience composed of reasonable purchasers, just as the trademark test does. But the audience is asked a different question. Despite the fact that the Supreme Court has spoken of “the resemblance . . . such as to deceive such an observer, inducing him to purchase one supposing it to be the other,”¹³⁴ the Federal Circuit has held that in design patent law, it is the similarity between the claimed design and the defendant’s product, not the likelihood of confusion, that determines infringement.¹³⁵ The result is a hybrid: the consumer audience from trademark law, asked to make the rather more abstract assessment of expert-based technical similarity from patent or copyright law.

Traditionally, the fact finder was required to channel the expert audience in one important respect: while the audience was composed of the ordinary observer, that observer was credited with knowledge of the prior art, which meant that only similarities that were actually original to the design patentee could form the basis for a finding of infringement.¹³⁶ But in *Egyptian Goddess, Inc. v. Swisa, Inc.*, the court abolished this long-standing point-of-novelty test for design patents, which had required proof that the defendant copied a novel aspect of the plaintiff’s design.¹³⁷ The court replaced the point-of-novelty test with the ordinary-observer test for infringement, which asks whether an ordinary observer would think the plaintiff’s and defendant’s designs were the same, even if the similarities were already known in the art.¹³⁸ In so doing, the court moved from an audience that was more patent-like to one that is closer to audiences used in trademark or perhaps copyright law.

Understanding these differences is itself valuable because the different audiences lead each of the IP regimes to different tests for infringement. In focusing on the audience, we offer a lens through which scholars and courts can understand how and why different IP regimes define infringement differently. We turn to those differences in Part II.

II. POSSIBLE INFRINGEMENT AUDIENCES

Although other variations exist, there are—as Part I demonstrates—three principal possible audiences in IP infringement. First, the audience

133. *Gorham Co. v. White*, 81 U.S. (14 Wall.) 511, 528 (1871); *accord* *Oakley, Inc. v. Int’l Tropic-Cal, Inc.*, 923 F.2d 167, 169 (Fed. Cir. 1991).

134. *Gorham*, 81 U.S. at 528.

135. *Unette Corp. v. Unit Pack Co.*, 785 F.2d 1026, 1029 (Fed. Cir. 1986).

136. *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665 (Fed. Cir. 2008) (en banc) (describing the history).

137. *See id.* at 678.

138. *Id.* at 670, 678. For criticism of that decision, see Mark A. Lemley, *Point of Novelty*, 105 Nw. U. L. Rev. 1253 (2011).

might be a consumer of the item that the relevant IP right protects, such as a pharmaceutical drug, classical music, or soft drinks. Second, the audience might be an expert in the particular subject matter of the IP, such as a chemist for a pharmaceutical patent, a classical musician or musicologist for a classical music composition, or a branding, marketing, or linguistics specialist or worker in the beverage industry for a soft-drink brand. Third, the audience might be some reasonable ordinary observer outside the industry, much like tort law's "reasonable person" who determines whether conduct was negligent.¹³⁹ In this Part, we explore how the choice of audience influences each regime's definition of infringement.

It is easy to see how these different audiences might answer the same question—whether two specified items are identical or too similar to one another—differently. Consumers might readily think that two drugs are substitutes despite their different chemical formulations because they perform similarly in their eyes, while a chemist would think the drugs are different due to their dissimilar formulations. Consumers might think that two cola drinks with different branding are dissimilar despite their very similar recipes, while beverage experts focused on the ingredients might disagree.¹⁴⁰ Classical-music consumers might think two compositions sound relatively similar, while an ordinary reasonable observer might yet more readily find similarity and a classical-music expert considerably less similarity. The choice of audience can thus be outcome determinative.

Why do IP regimes choose one audience group as a reference point over another? And why do they differ?

A. *Consumer*

One possible audience choice for assessing IP infringement—as seen in varied ways in trademark, copyright, and design patent law—is the consumer of the product or service associated with the particular IP right. Some other areas of law are directly concerned with how consumers behave. Antitrust law, for instance, cares about real-world markets. Conduct by a monopolist is illegal if it helps the company acquire or maintain a monopoly.¹⁴¹ The question is not whether a person would consider the conduct to be bad or outside the range of acceptable corporate conduct. Rather, the question is whether the conduct will in fact have negative effects in the marketplace.¹⁴² The actual market is the audience against which we measure an antitrust violation.¹⁴³

139. See *United States v. Carroll Towing Co.*, 159 F.2d 169 (2d Cir. 1947).

140. See Mark A. Lemley & Mark P. McKenna, *Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP*, 100 GEO. L.J. 2055, 2086–87 (2012).

141. III PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* § 606a (3d ed. 2008).

142. *IIIB id.* at § 782b.

143. See *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 466–67 (1992).

Choosing a consumer to measure whether an IP right has been infringed makes sense when IP law is concerned with protecting rights holders from substitutions in the marketplace.¹⁴⁴ Consumers will find that particular works are substitutes if they would tend to buy either one interchangeably.¹⁴⁵ Oftentimes, consumers will identify two works as substitutes if they function in much the same way.¹⁴⁶ For example, consumers will likely find two pharmaceuticals similar enough if they achieve the same effect with similar side effects. They will find two songs similar enough if the songs sound alike and are similarly enjoyable. They may find two tablet designs similar enough if they look the same. Consumers will find two soft-drink marks similar if the marks sufficiently resemble each other such that the consumers might purchase the respective products thinking that they both come from the same source. Notably, market substitution may or may not depend on the technical similarity that an expert would measure between the two works. Two drugs that both treat heart disease might be chemically similar, but drugs that are chemically different might still serve the same function and thereby work as market substitutes. By contrast, two sodas may be virtually identical chemically and still not serve as market substitutes if customers are conditioned to choose one over the other based on their prior experiences with the brand.¹⁴⁷

Because consumers as a class tend to focus on whether the uses for two products are interchangeable, the consumer is likely to be the audience that most directly measures whether the plaintiff's work and the defendant's work at issue in IP litigation substitute for one another in the marketplace. When the consumer is the audience for IP infringement, then, market substitutes are more likely to be deemed infringing and thus third parties will be discouraged from producing substitutes without permission from the rights holder. For this reason, the consumer is an ideal audience choice for assessing IP infringement when that form of IP law seeks to discourage third parties from creating or distributing market substitutes of works protected by an IP right.

144. We cannot presume that the very fact of litigation indicates that a substitute product is harming the plaintiff in the marketplace. That might be true in some cases, but it also might be that the plaintiff wants to claim rights beyond the marketplace in a separate space in which the defendant is operating.

145. Our invocation of "market substitution" with regard to IP infringement can, but does not necessarily, carry the precise meaning that the term has been given in the antitrust context of "the reasonable interchangeability of use or the cross-elasticity of demand between the product itself and substitutes for it." *Brown Shoe Co. v. United States*, 370 U.S. 294, 324 (1962). There is a broader range of meanings. Principally, while antitrust depends on market definition, IP cases too often turn on explicit or implicit conclusions about whether and to what extent two products compete. Lemley & McKenna, *supra* note 140.

146. *E.g.*, *supra* note 82 and accompanying text (discussing software in this way); *cf.* Anish Vaishnav, *Product Market Differentiation in Pharmaceutical Antitrust Cases: Evaluating Cross-Price Elasticity of Demand*, 2011 COLUM. BUS. L. REV. 586, 616 (employing a functional perspective in the context of antitrust market substitution).

147. See Lemley & McKenna, *supra* note 140.

Interestingly enough, this means that when the consumer serves as the audience in IP infringement and substitution is the test for similarity, consumers ultimately enjoy the fewest market choices for a particular type of work. That is, because market substitutes are more likely to be considered infringements, in theory only one protected work per market is allowed. If a consumer sees plastic pipes as interchangeable with metal pipes, an IP right that prevents market substitution would allow the owner of one type of pipe to prevent sale of the other. Choosing the consumer as audience, then, is not highly protective of consumers themselves.

The consumer is not an ideal audience choice in IP infringement when the IP law at issue is only intended to provide protection against copying the protected thing and not against competition from another thing. If we think society benefits from having multiple drugs to treat pain that work in different ways, for example, the consumer audience is not well suited to reach that result. Even if there are already pharmaceutical formulations for pain relief, society as a whole might benefit greatly from a new formulation that accomplishes similar results because it might be helpful to a subpopulation that does not respond to the preexisting formulations.¹⁴⁸ Even if this is not the case, the new formulation might generate further scientific research and yield helpful results in other ways in the future.¹⁴⁹ Or the formulation may work by a completely different mechanism, even though that mechanism is not transparent to the end user.¹⁵⁰ A consumer assessing IP infringement of a preexisting formulation by the new drug will often be inclined to find sufficient similarity and thus infringement. That would discourage the creation of the new formulation, to society's detriment. More generally, the consumer's inattentiveness to differences beyond market substitutive elements could thus prove harmful to society.

A related issue is that consumers are not monolithic. Some people insist on drinking Coke over Pepsi (or the reverse); others don't care. Defining the consumer as the audience requires us to make judgments about how many consumers must agree on something. It also requires that we determine how to account for the views of the remainder. A plausible measure is whether a majority of the defined audience would find infringement. This majority requirement aligns with the "preponderance of the evidence" standard plaintiffs must meet on the issue of infringement.¹⁵¹ If the audience is a hypothetical consumer, the alignment is perfect: the plaintiff must show that

148. Anne Stein, *Pain Relievers: What Are the Differences?*, CHI. TRIB. (Jan. 13, 2011), http://articles.chicagotribune.com/2011-01-13/news/sc-health-0112-pain-reliever-differen20110113_1_alcohol-warning-chronic-pain-tylenol (noting, for example, that ibuprofen is dangerous for people who take oral steroids or blood thinners, but acetaminophen is not).

149. On the disclosure value of IP rights and the potential benefit for research, see, for example, Fromer, *supra* note 48, and Lisa Larrimore Ouellette, *Do Patents Disclose Useful Information?*, 25 HARV. J.L. & TECH. 545 (2012). For a more skeptical view, see Lemley, *supra* note 10, at 997.

150. See Fromer, *supra* note 48, at 547–54.

151. Cf. *Desert Palace, Inc. v. Costa*, 539 U.S. 90, 99 (2003) (indicating that the preponderance of the evidence standard is the norm for civil litigation).

it is more likely than not that this hypothetical consumer would believe the defendant infringed. But even if the consumer used as the infringement audience is a real one, a reasonable translation of the preponderance standard might be that more people in the audience would find infringement than would not.¹⁵²

Thus far, it might seem that consumers are especially likely to find similarity or substitution—and thus infringement (and broader IP rights)—because they are less attuned than experts to differences between products. That is not always the case. In fact, consumers and experts are both attuned to differences between products, but they tend to focus on different factors because they approach the products in different ways. Sometimes two things that are technically the same from an expert's point of view serve completely different functional purposes, making consumers more likely to react to those differences and find noninfringement than an expert focused on the technical aspects would be. For example, a thumbnail image on a computer may be a reduced copy of the original, but as a link in an image search engine, it serves a different purpose than the original does.¹⁵³ Consumers may be more likely to respond to this transformed use in a different market than an expert would because they focus not on the similarity of the ideas themselves but on the different uses to which the two images are put.

When the consumer is the audience in IP infringement, there is a second-order question of how to ascertain what the consumer thinks. One approach is to present the court with consumer surveys or expert testimony on what consumers think.¹⁵⁴ The fact finder can rely on that evidence to assess whether consumers would find that the works at issue are too similar. The fact finder in this approach is a neutral arbiter, taking evidence on what actual consumers believe. Alternatively, fact finders themselves can be treated as consumers who judge whether the litigated works are too similar based on their own views in conjunction with the presented evidence.¹⁵⁵ The fact finders might then be asked their own opinion on whether consumers

152. We might want to set the margin lower than 50% to halt infringement before it becomes pervasive in the marketplace. Take trademark law. There, courts tend to find infringement if as few as 10% of real consumers are likely to be confused. *See supra* note 37 and accompanying text. The theory is that even 10% confusion can disrupt the market with inefficient deception and produce a substantial windfall for infringers. At the other end, there may be circumstances, such as criminal copyright infringement, where the standard of proof is heightened to beyond a reasonable doubt, *United States v. Larracuente*, 952 F.2d 672, 673 (2d Cir. 1992), in which we want to be confident that a substantial majority of audience members think there is infringement.

153. *See Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1165 (9th Cir. 2007) (“Although an image may have been created originally to serve an entertainment, aesthetic, or informative function, a search engine transforms the image into a pointer directing a user to a source of information.”).

154. *E.g.*, *Christian Louboutin S.A. v. Yves Saint Laurent Am. Holding, Inc.*, 696 F.3d 206, 227 (2d Cir. 2012).

155. *See, e.g.*, *Arnstein v. Porter*, 154 F.2d 464, 473 & n.22 (2d Cir. 1946) (remarking that the jury is “peculiarly fitted to determine” similarity in copyright infringement cases about popular music and that “tone-deaf persons” ought to be excluded from the jury).

would find the plaintiff's and defendant's works to be substitutive. In this scheme, jurors are a set of putative consumers acting on their own beliefs as a proxy for what other consumers likely believe.¹⁵⁶

Each approach has its costs and benefits. Under our legal system, the second option can only work when the fact finder (jury or judge) is actually a consumer of the products at issue. Even then, however, there are concerns. Juries often must be unanimous, and we might worry about market substitutions for some consumer jurors but not others. When the threshold for substitution is low (such as 10 percent of consumers overall¹⁵⁷), even jurors with personal knowledge of an IP issue for a product or brand must disregard that knowledge to an extent and instead put themselves in the mindset of the least sophisticated subset of consumers. Doing so may make it harder for jurors to model the consumer audience because of the inherent challenge in taking a position that is different from their own experiences.

Moreover, consumer fact finders sitting through a trial might have some difficulties placing themselves in the mindset of consumers in the actual marketplace. When comparing products in the marketplace, consumers often browse the store aisles in a hurry or do some simple online research. This is significantly different from the fact finder, who sits in a courtroom and likely focuses for days during the trial on the litigated products and comparisons between the two. The differences between the courtroom setting and the marketplace might lead juror-consumers to reach a different conclusion than they would in the marketplace.¹⁵⁸

For products not directed at lay consumers, the problem is worse. Jurors aren't the consumers of, say, enterprise software; if a jury is to assess how actual business consumers would view products of this type, courts must provide them with sufficient evidence so they may assess whether the actual consumer would find the litigated works to be too similar. While we might

156. Scholars recognize that so long as juries are generally representative of the public at large, they are useful as proxies for that public. *E.g.*, Laura I. Appleman, *The Lost Meaning of the Jury Trial Right*, 84 *IND. L.J.* 397, 398–06 (2009); Heather K. Gerken, *Second-Order Diversity*, 118 *HARV. L. REV.* 1099, 1108–09 (2005); Deborah Zalesne & Kinney Zalesne, *Saving the Peremptory Challenge: The Case for a Narrow Interpretation of McCollum*, 70 *DENV. U. L. REV.* 313, 326 (1993).

157. *See supra* note 152 (discussing this rule in trademark law); *see also supra* text accompanying note 37 (same).

158. *Cf., e.g.*, *THOIP v. Walt Disney Co.*, 690 F. Supp. 2d 218, 231 (S.D.N.Y. 2010) (“The failure of a survey [assessing consumer views] to approximate actual marketplace conditions can provide grounds for inadmissibility [in a trademark infringement case].”); Dena Cox & Anthony D. Cox, *Beyond First Impressions: The Effects of Repeated Exposure on Consumer Liking of Visually Complex and Simple Product Designs*, 30 *J. ACAD. MARKETING SCI.* 119, 119 (2002) (“[Consumers’] preferences for visually complex product designs tend to increase with repeated exposure, while preferences for visually simple product designs tend to decrease with repeated exposure.”).

rely on survey evidence and expert testimony, there are well-known concerns with its accuracy and potential for manipulation.¹⁵⁹

However the evidence is obtained, the consumer perspective is likely to focus more on market substitution than on the technical similarity of the works in question. The consumer as audience might, however, overlook some distinctions that society deems valuable, thereby discouraging the creation of valuable works.

B. *Expert*

A second possible audience for adjudging infringement is experts in the subject matter of the suit, whether it is software engineers for software patents or copyrights, musicologists or classical musicians for a classical-music composition copyright, or a soft-drink branding expert for a cola trademark.¹⁶⁰ The expert is a sensible audience in IP infringement if the relevant form of IP is concerned with ensuring that only works that the expert considers sufficiently similar are prohibited.

An expert tends to find that one work in his field is too similar to another when the work does not make a material technical contribution to the expert's field different from or above and beyond the other work's contribution.¹⁶¹ To an expert, two works might be sufficiently dissimilar as long as they work in different ways. As such, the expert as audience makes sense if the form of IP at issue has the goal of encouraging a range of works that make technically distinguishable contributions to the relevant field (and concomitantly, if it has the goal of discouraging works that make no technically distinguishable contributions to the field). For instance, consider again different pharmaceutical formulations. They might perform the same function in consumers' eyes, but chemists might see the two as distinguishable contributions to the field owing to their distinct formulations, each of which

159. See, e.g., Michael Rappeport, *Litigation Surveys—Social “Science” as Evidence*, 92 TRADEMARK REP. 957 (2002); Daniel A. Klein, Annotation, *Admissibility and Weight of Consumer Survey in Litigation Under Trademark Opposition, Trademark Infringement, and False Designation of Origin Provisions of Lanham Act (15 USCS §§ 1063, 1114, and 1125)*, 98 A.L.R. FED. 20 (1990). But see Irina D. Manta, *Reasonable Copyright*, 53 B.C. L. REV. 1303, 1351 (2012) (arguing that copyright law ought to use surveys in assessing substantial similarity, much as trademark law does in assessing confusion).

160. It is possible that multiple subject-matter areas are at issue in a particular suit, which complicates the choice of expert referent. Cf. *supra* note 123 (discussing this issue in the context of copyright's infringement test).

161. Psychologists and sociologists studying creativity generally understand it to be “a process that generates a product or idea and possesses two qualities: newness and appropriateness—appropriate in the sense that some community recognizes it as socially valuable.” Jeanne C. Fromer, *A Psychology of Intellectual Property*, 104 Nw. U. L. REV. 1441, 1459–60 (2010) (footnote omitted) (citing, *inter alia*, MIHALY CSIKSZENTMIHALYI, *CREATIVITY: FLOW AND THE PSYCHOLOGY OF DISCOVERY AND INVENTION* 25, 28–29 (1996), and R. KEITH SAWYER, *EXPLAINING CREATIVITY: THE SCIENCE OF HUMAN INNOVATION* 27 (2006)). According to this understanding, experts in a field act as the domain's gatekeepers and are essential to evaluating creative contributions in the field. *Id.* at 1460–61 (citing CSIKSZENTMIHALYI, *supra*, at 6, 27–30).

can be further researched and built upon.¹⁶² Consumers, by contrast, cannot be counted on to distinguish the technical or specialized contributions that the newer formulation makes from those of the preexisting formulations in the marketplace. As another example, pop music has significant genre constraints, such as its limited use of particular chord progressions.¹⁶³ Blues music has basic tonal progressions.¹⁶⁴ Consumers of these forms of music might find two different songs to be overly similar precisely because of the relevant genre's constraints.¹⁶⁵ Experts might not, however, because in adjudging similarity they are more likely to ignore similarities that result from these known constraints. To the expert, these similarities aren't the result of copying the plaintiff's work but of the inherent constraints of the science, the artistic genre, or the relevant industry.

In addition to its value in encouraging technical contributions to the relevant field, using experts as audience can effectively protect market competition. If IP law permits variations from the expert's perspective that do not register as variations to the consumer, some number of market substitutes would be considered noninfringing. As such, they are more likely to be produced and will offer consumers a wider range of products at lower prices. And if it is correct that competition drives innovation, allowing a range of differentiated products may also best promote the goal of encouraging new creation.¹⁶⁶

Just as consumer decisionmakers don't always vote for IP owners,¹⁶⁷ expert analysis will not always favor narrower IP rights on the basis that experts notice many more differences than consumers would. Sometimes surface differences can conceal what really are two products that operate the same way from an expert's perspective. For example, software programs such as word processors or web browsers might have different interfaces, persuading consumers that they are sufficiently different, but both programs

162. See *supra* text accompanying notes 148–150.

163. See Valeria M. Castanaro, Note, “It’s the Same Old Song”: The Failure of the Originality Requirement in Musical Copyright, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 1271, 1271, 1280–81 (2008); random804, *Axis of Awesome – 4 Four Chord Song (with Song Titles)*, YouTube (Dec. 10, 2009), <http://www.youtube.com/watch?v=5pidokakU4I> (demonstrating how many popular songs share the same four chords).

164. See Sergiu Gherman, *Harmony and Its Functionality: A Gloss on the Substantial Similarity Test in Music Copyrights*, 19 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 483, 484 (2009).

165. See Lund, *supra* note 2, at 152–73 (reporting experimental findings that lay listeners are bad at assessing the similarity between musical compositions); cf. Castanaro, *supra* note 163, at 1271–74, 1280–81 (discussing how these genre constraints can cause problems for copyright’s originality requirement).

166. See Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in THE RATE AND DIRECTION OF INVENTIVE ACTIVITY 609, 619–22 (Nat’l Bureau of Econ. Research ed., 1962). For a review of the economic evidence supporting this position, see Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031 (2005).

167. See *supra* text accompanying note 153.

might be driven by source code that experts would find too similar.¹⁶⁸ Similarly, songs may contain certain individualized musical progressions that are technically similar (and likely copied), even though a difference in genre or lyrics makes lay ears significantly less likely to detect this similarity.¹⁶⁹ And ads that appear opposite search results may be driven by the use of trademarks in the search-engine algorithm, even though the actual ads the consumer sees are silent about the trademark in question.¹⁷⁰

While consumers focus on market substitution and largely ignore the way things work under the hood, experts tend to focus on technical similarity to the exclusion of market effect. Thus, an expert might be more likely than a consumer to conclude that a defendant's product infringed a patent because it included the same technical contribution, even if the defendant put that technology to a very different use that didn't interfere with the patentee's market. If we want IP rights to cover only uses that cause market harm, consumers are more likely than experts to reach that result.

The second-order question concerns how the fact finder can ascertain the views of the expert. Because in the American litigation system fact finders are not expected to be experts, employing the expert as audience requires that the fact finder channel the beliefs of someone whose expertise they do not usually possess.¹⁷¹ To render a decision on infringement, lay fact finders will need evidence on what experts think. If that evidence comes in the form of expert testimony, the law is faced with the usual concerns about the reliability of the evidence, a possible battle of the experts, and the ability of laypeople to process this evidence.¹⁷² There may be ways to mitigate these concerns. For example, even if experts disagree about the particulars of the case at hand, they might nonetheless largely agree about background matters, which can help the fact finder understand the relevant field. Expert evidence might also come in the form of expert resources, such as textbooks published around the time the work was created. Using these sources may

168. Cf. *Model View Controller Explained*, TOM DALLING (May 31, 2009), <http://tomdalling.com/blog/software-design/model-view-controller-explained> (explaining the popular model-view-controller software design, in which the source code that creates the graphical user interface (the view) is separate from the code that reacts to actions (the controller) and the underlying data it controls (the model)).

169. Lund, *supra* note 2, at 152–73.

170. *Rescuecom Corp. v. Google Inc.*, 562 F.3d 123, 127–31 (2d Cir. 2009) (holding that this practice by a search engine constitutes a use in commerce for purposes of trademark law).

171. If the fact finder does possess expertise (even if only indirectly, perhaps because the fact finder has a preexisting sense of what experts think on this issue), some of these concerns might be minimized and the analysis would be more similar to that of the fact finder as consumer addressed above. See *supra* text accompanying notes 155–158.

172. See generally Scott Brewer, *Scientific Expert Testimony and Intellectual Due Process*, 107 YALE L.J. 1535 (1998); *Vitronics Corp. v. Conception, Inc.*, 90 F.3d 1576, 1584–85 (Fed. Cir. 1996) (holding that expert testimony on claim construction is unreliable and should be discouraged). In patent law, the use of a hypothetical expert helps reduce the significance of the battle of expert witnesses. See *supra* Section I.B. Rather than finding a particular person and asking him what he thinks, patent law tries to create a hypothetical person who can channel all the evidence.

avoid some concerns about expert testimony's reliability, although it does not alleviate many of the other concerns. Additionally, as discussed above, patent law has a number of legal devices designed to limit the power afforded expert testimony.¹⁷³

Moreover, lay fact finders might have a hard time putting themselves in the expert's shoes because individuals generally struggle to model people dissimilar from themselves. Cognitive science studies demonstrate that people tend to use themselves to simulate the mental states of others, particularly when the person they are modeling is similar to them; when the person is dissimilar, people often adjust their mental model by making some changes to their own.¹⁷⁴ When people recognize the great mental distance between themselves and another, they might resort to stereotyping in order to model the other.¹⁷⁵ These studies therefore cast some doubt on how well lay fact finders can model experts as the audience in IP infringement.¹⁷⁶

Using judges rather than juries as fact finders when the audience is the expert might alleviate these problems to some extent. While judges are not immune from cognitive biases,¹⁷⁷ because judges see more cases than juries and do so over a longer period of time, they might develop better models of the expert to use as reference points when making infringement determinations.¹⁷⁸ At a minimum, they will see more experts and be more capable of evaluating a particular expert relative to her peers.

In sum, the expert is a sensible choice for audience in IP infringement when the IP regime wants both to encourage new technical contributions to the relevant field and to discourage works that make no material technical

173. See *supra* note 84 and accompanying text.

174. Daniel R. Ames, *Inside the Mind Reader's Tool Kit: Projection and Stereotyping in Mental State Inference*, 87 J. PERSONALITY & SOC. PSYCHOL. 340, 340 (2004); Nicholas Epley et al., *Perspective Taking as Egocentric Anchoring and Adjustment*, 87 J. PERSONALITY & SOC. PSYCHOL. 327, 327 (2004); cf. Donn Byrne, *Interpersonal Attraction and Attitude Similarity*, 62 J. ABNORMAL & SOC. PSYCHOL. 713, 713 (1961) ("Studies in a wide variety of settings have shown that physical and functional distance influence interaction and interpersonal attraction."). *But cf.* Bertram F. Malle, *The Actor-Observer Asymmetry in Attribution: A (Surprising) Meta-Analysis*, 132 PSYCHOL. BULL. 895, 895 (2006) (demonstrating that the actor-observer asymmetry is less robust than has been assumed).

175. Epley et al., *supra* note 174, at 328.

176. Cf. Kevin Jon Heller, *The Cognitive Psychology of Mens Rea*, 99 J. CRIM. L. & CRIMINOLOGY 317, 322 (2009) ("The question . . . is *why* legal scholars take it for granted that jurors can make accurate mental-state determinations. . . . [G]iven the significant cognitive demands that contemporary criminal law imposes on jurors, it is far from obvious that they can. The answer seems to be that legal scholars embrace, implicitly or explicitly, a commonsense theory of mental-state attribution in which mindreading seems neither particularly complicated nor particularly problematic.").

177. Chris Guthrie et al., *Inside the Judicial Mind*, 86 CORNELL L. REV. 777, 816 (2001).

178. Cf. OLIVER WENDELL HOLMES, JR., *THE COMMON LAW* 83–84 (Am. Bar Ass'n 2009) (1881) (arguing that judges are better decisionmakers than juries because judges' repeated exposure to particular situations provides them with a better basis on which to decide cases).

contribution to the field. But reliance on an expert audience presents difficult second-order issues because lay fact finders will have trouble modeling that expert audience.

C. Ordinary Reasonable Person

A third possible choice of audience in IP infringement is the ordinary reasonable person. The ordinary observer is a hypothetical person, a reasonable individual with attributes drawn from the general population, but not necessarily a consumer of the particular product at issue or indeed reflective of any real person at all.

The law relies on hypothetical people at various points. Most notably, negligence in tort law is determined from the perspective of the “reasonable person.”¹⁷⁹ This reasonable person is not the median actual person or even an amalgam of real people. This person is a hypothetical construct, possessed of characteristics that don’t necessarily map onto any real person.¹⁸⁰ The ordinary reasonable person might seem like the consumer, but there is an important difference: the “reasonable” moniker gives courts some leeway to modify the actual consumer’s views in the interest of serving legal goals. In tort law, for instance, a person is considered to have acted unreasonably “if he or she takes less than the socially optimal level of care.”¹⁸¹ The justification for this standard is that it “forces potential injurers to take into account, or internalize, the externalities of inefficient conduct, thereby preventing such conduct.”¹⁸² A real person may have no idea of the optimal level of care, but the choice of the hypothetical reasonable observer gives courts the freedom to attribute to the audience some of the characteristics of a legal expert.

Similarly, in IP infringement, one might see choosing the ordinary reasonable observer as the audience as an attempt to prevent infringers from copying only in instances where reasonable people would detect similarities in a way that the law would care about. As in tort law, this choice presumes that fact finders have sufficient information at their disposal to distinguish reasonable from unreasonable conduct, a questionable assumption.¹⁸³ But it may provide room for the law to establish certain norms of permissible conduct, allowing courts to define some beliefs as unreasonable no matter how

179. W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS 173–92 (5th ed. 1984).

180. See generally Alan D. Miller & Ronen Perry, *The Reasonable Person*, 87 N.Y.U. L. REV. 323, 371 (2012) (discussing whether the law ought to rely on normative or positive considerations in constructing the reasonable person). The two audience possibilities previously discussed—the expert and the consumer—might also be hypothetical. In fact, that is the case in patent law, where the audience reference point is a hypothetical expert who has ordinary knowledge and creativity. See *supra* Section I.B.

181. Miller & Perry, *supra* note 180, at 328.

182. *Id.*

183. See *id.* at 336–40.

widely they are held. For this reason, either a judge or a jury might model the ordinary observer.

Perhaps most importantly, compared to actual consumers and experts, the hypothetical observer is less likely to notice differences between litigated works. Unlike the expert, this observer probably knows little about the genre of any particular litigated work, which minimizes the chance that she will be attuned to similarity based on characteristics that matter in that genre. And compared to the consumer, the ordinary reasonable observer is less attentive to considerations that litigated works might be comparable as consumed goods because she does not approach the issue with the works' respective functions in mind. Cast in this light, the reasonable ordinary observer is worthy as an audience only when the relevant form of IP law wants to find infringement more readily and without any attention to genre or market-place substitutions; that is, if it wants to deter works that are less similar than an expert or consumer would find.¹⁸⁴

As this Part demonstrates, different audiences (and fact finders, for that matter) can readily provide varying determinations on infringement. The choice of audience therefore ought to be made carefully with regard to the desired goals of each form of IP law. Understanding this fact helps explain many of the differences in IP infringement doctrine.

III. THE CONSUMER AND THE EXPERT AS TOUCHSTONES

The payoff from focusing on the audience in IP infringement goes beyond simply understanding why our infringement regimes look so different. It can also prompt us to think normatively about what should constitute infringement. Having provided a background on the audience choices that the various IP regimes actually make and an analysis of why the choice matters, we now consider which audience the various IP regimes ought to employ in infringement cases.

Is there a justification for various IP regimes using different audiences? Intuition might suggest that each regime ought to pick the audience that best accords with its underlying goals. Given the particular focus of each statute, as described in Part I, it might then seem that each regime has carefully chosen its audience for IP infringement to match its particular goals.

We suggest that this intuition is, if not wrong, incomplete. Despite different features, the various IP regimes share at least one common goal: encouraging creation by giving creators a limited measure of market control.

184. It is not logically necessary that an ordinary reasonable observer notice fewer differences than the other audiences. One might imagine that such an observer knows the standard of care in the field and would observe just as much, if not more, difference than the other audiences. That said, courts seem to understand the ordinary reasonable observer in IP infringement cases as unobservant of differences. *See, e.g., supra* Section I.C.

We think this goal is best served when each type of IP infringement requires proof of similarity from both the expert's and consumer's point of view.

Related to the question of the best audience is the question of what exactly we want the audience to decide. Should the audience simply relate its factual belief about similarity, which the fact finder would then use to inform its normative determination as to infringement? Or should the audience also directly make some normative determination about whether the similarity is sufficiently problematic to rise to the level of infringement? We refer to the ultimate decisionmaker in a trial as the "fact finder," suggesting that its job in channeling the audience involves determining facts about the state of the world. In practice, however, we also charge fact finders with doing more than finding facts. We sometimes charge them with making a normative assessment of those facts in order to determine the ultimate question of culpability. A jury that finds the defendant negligent in a tort case is not merely discovering a fact about the world; it is making a judgment that the defendant's conduct deserves punishment because it falls below an appropriate standard of conduct.¹⁸⁵ The jury is channeling an audience (there, the hypothetical reasonable person), but it not only uses the lens of the reasonable person to find facts but also to make normative moral judgments.

The same can be true in IP cases. For example, copyright law requires not only evidence that the defendant did in fact copy from the plaintiff but also evidence that the copying rose to the level of improper appropriation.¹⁸⁶ The latter assessment requires a judgment as to how much copying is required for liability. Even trademark law, which focuses quite heavily on what consumers in the real world think, does not stop with that evidence, instead using it as part of a multifactor test.¹⁸⁷ Patent law, by contrast, seems to ask only the fact-finding questions in its infringement analysis: the question is whether the defendant's product has all the elements of the patent claim, not whether the similarity was substantial enough to warrant liability. But the normative judgment in patent law is folded into the claim-construction process, which defines the scope of the invention for the purpose of ascertaining infringement.¹⁸⁸ In each case, then, determining infringement is at least in part a normative as well as a purely factual question.

A. *Experts and Technical Similarity*

Expert-based similarity matters across the range of IP infringement cases because the theory of all IP infringement is that the defendant is using something that makes no material contribution to the relevant field beyond the plaintiff's preexisting contribution.

185. DAN B. DOBBS, *THE LAW OF TORTS* § 148, at 354–55 (2000); Francis H. Bohlen, *Mixed Questions of Law and Fact*, 72 U. PA. L. REV. 111, 113 (1924).

186. On *Davis v. Gap, Inc.*, 246 F.3d 152, 172–73 (2d Cir. 2001).

187. See *supra* notes 27–30 and accompanying text.

188. See *supra* notes 58–60 and accompanying text.

Take patent law. For society's benefit, patent law seeks to encourage the development of a multitude of useful scientific and engineering inventions, including inventions that accomplish similar or identical functions in different ways.¹⁸⁹ Measuring similarity from the vantage point of the expert rather than the consumer ensures that patent infringement is found only when the defendant's product embodies an inventive principle that is too similar to the plaintiff's. If the defendant's product constitutes a material contribution to the field, by contrast, approaching the same end in a different way, an expert would not find it infringing.¹⁹⁰

The expert as audience thus aligns with the goal of encouraging valuable contributions to science and technology.¹⁹¹ It rewards the patentee who makes a contribution to her field by ensuring that the use of her invention remains off limits to those without her permission.¹⁹² At the same time, patent law's focus on technical similarity is a limitation on the scope of the patent. Subsequent inventors can develop a variety of items that consumers view as substitutes for the patented invention but that are not technically similar without running afoul of patent law. That improvers are free to invent around a patent or to apply an idea to a new and different end benefits consumers and helps drive the progress of science and technology.¹⁹³

Consider Velcro. Velcro has a different fastening mechanism than, say, zippers, even though both have a similar function in fastening clothing. Even if consumers in the marketplace for clothing might generally substitute one for the other, engineers would not consider them to be substitutes because of their different characteristics, such as Velcro's relatively greater strength and its distinctive fastening mechanisms.¹⁹⁴ Engineers would consider Velcro as an important contribution to their field distinct from the zipper. For one thing, unlike the zipper, Velcro might be used to make further advances in science and technology. Indeed, Velcro may turn out to hold a human heart together in artificial-heart surgery, something we would be reluctant to try

189. See *supra* Section I.B.

190. Patent law's focus on technical similarity prevents fact finders from finding that a defendant infringes merely because it competes with the plaintiff's product. At least, it should. For an argument that software patents have lost sight of this limitation, instead patenting the problem being solved rather than the particular solution the patentee invented, see Lemley, *supra* note 81.

191. See Lemley, *supra* note 10, at 993–94.

192. See *id.* at 994.

193. See *TiVo Inc. v. EchoStar Corp.*, 646 F.3d 869, 883 (Fed. Cir. 2011) (en banc) (“[Patent] polic[ies] that legitimate design-around efforts should always be encouraged as a path to spur further innovation.”); John M. Golden, *Injunctions as More (or Less) than “Off Switches”*: *Patent-Infringement Injunctions’ Scope*, 90 TEX. L. REV. 1399, 1406–09 (2012). But see STAFF OF SUBCOMM. ON PATENTS, TRADEMARKS, & COPYRIGHTS, S. COMM. ON THE JUDICIARY, 85TH CONG., AN ECONOMIC REVIEW OF THE PATENT SYSTEM 51 (Comm. Print 1958) (prepared by Fritz Machlup) (“The production of the knowledge of how to do in a somewhat different way what we have already learned to do in a satisfactory way would hardly be given highest priority in a rational allocation of resources.”).

194. See ALLYN FREEMAN & BOB GOLDEN, *WHY DIDN'T I THINK OF THAT?* 99–103 (1997).

with a zipper.¹⁹⁵ Moreover, Velcro's invention ultimately led engineers to different sorts of subsequent innovation building on it. Velcro's shortcomings in certain contexts—such as the noise it makes when a soldier opens the pockets on his uniform (in situations when the soldier needs to stay quiet)—led to a valuable innovation: the military's invention of a noiseless Velcro.¹⁹⁶ Furthermore, because Velcro's inventor modeled the product on the burrs of the burdock plant, its creation has helped develop more broadly the field of biomimicry, which uses natural principles as inspiration to solve other challenges.¹⁹⁷

Society ought to encourage the development of products like Velcro, even if the typical consumer will not distinguish between Velcro and zippers for the particular use of fastening a shoe. Conversely, we probably should not worry about encouraging uses of preexisting scientific or technological contributions that make no further contribution to the relevant field—those an expert would judge to work in the same basic way. In fact, we might want to deter this kind of use.

At the same time, an expert's focus on technical similarity will mean that he is inclined to look past the actual use of the technology to the underlying way the technology works. To an expert, Velcro used to fasten shoes and Velcro used to hold the human heart in place are not different technical inventions but simply different market applications of the same basic scientific principle. So while experts are less likely to find infringement when the technical contribution has changed, they are more likely to find infringement when the technical contribution is the same, even if the market context has shifted.

A similar story can be told about artistic works covered by copyright law. Western art experts generally devalue close imitations of famous paintings.¹⁹⁸ But experts would likely find appropriation art by Jeff Koons or Shepard Fairey to make material artistic contributions, even though their pieces are clearly imitations of others' prior works, because the experts see a significant artistic effort in the imitation.¹⁹⁹ Music experts may find similarities in musical values and chord progressions that a lay audience would more readily overlook because of substantial differences in the lyrics or the

195. American Physical Society, *This Month in Physics History: February 9, 1990: Death of George de Mestral*, APS NEWS, Feb. 2004, at 2, available at <http://www.aps.org/publications/apsnews/200402/history.cfm>.

196. JOE SCHWARCZ, DR. JOE & WHAT YOU DIDN'T KNOW: 177 FASCINATING QUESTIONS ABOUT THE CHEMISTRY OF EVERYDAY LIFE 178–79 (2003).

197. See generally JANINE M. BENYUS, BIOMIMICRY (2002).

198. See, e.g., *Copies and Forgeries: What Difference Does It Make?*, LEOPOLD SEGEDIN (2005), http://www.leopoldsegedin.com/essay_detail_copies.cfm.

199. See, e.g., Angelina Krahn, *In Defense of Banality*, MILWAUKEE EXPRESS (Aug. 30, 2008), <http://expressmilwaukee.com/article-3409-in-defense-of-banality.html> (“[Koons’s] ability to transform Pop junk into high art is indebted to Warhol, Duchamp and Dali, all of whom he borrows from liberally.”).

basic melody.²⁰⁰ But they may also see that similarities that catch the attention of lay audiences are in fact driven by standard elements, such as chord progressions, that the copyright owner didn't invent.²⁰¹ Experts are likely to focus more on the technical work of the copyright owner and the defendant and less on similarities or differences that a consumer would consider significant.

Experts can serve a similar role in design patents. Design experts will emphasize the novelty of the contribution in the patentee's design. They are less likely than consumers to be swayed by similarities that are driven by standard design principles or that are well known in the art. But they may be more likely to find similarity when two seemingly disparate works in fact share a distinctive underlying design.

Promoting the proliferation (or at least a healthy number) of new works is central to making progress in knowledge and culture, the underlying goal of copyright and design patent law.²⁰² Doing so ensures contributions to the fields of painting, music, and design, while deterring the sorts of technical similarity and replication that do not advance the field from an art expert's point of view. Relying on experts as the audience in copyright and design patent infringement cases will tend to focus the infringement question on whether the defendant's work makes a material contribution beyond the plaintiffs.

The role of the expert in trademark law is less obvious. Marks are not "technical" in the same sense as inventions or even music, so there might seem to be less need for an expert to assess similarity in trademark than in other areas of law. But expertise still has a role to play in trademark law. Consumers sometimes focus on aspects of a brand or product package that the law doesn't want one company to control. Functional aspects of a product configuration and generic and descriptive terms may actually serve as signifiers to consumers, but we are reluctant to extend trademark protection to those elements because doing so would interfere with the competitive market that trademark law is ultimately supposed to promote.²⁰³

Determining such matters requires reference to experts in the field, not just consumer perceptions. For one thing, experts in the underlying good or services and the associated industry can provide insight into why marks look similar to one other: Is the use of a mark necessary to describe a product (because (1) it is a functional component of the product, (2) it is descriptive or generic with regard to the product, or (3) consumers will subconsciously view it more favorably), or is it instead an attempt to capitalize on a trademark holder's goodwill? Thus, an expert on fashion might explain why it is

200. See *supra* text accompanying note 169.

201. See *supra* text accompanying notes 163–165.

202. See *supra* Sections I.C–D.

203. See Fromer, *supra* note 13, at 1904–09 (evaluating why trademark law discourages or forbids protection for generic and descriptive marks); McKenna, *supra* note 24, at 86–87 (discussing the theory for excluding functional marks).

necessary to allow those who make monochromatic red shoes to use accompanying red soles—even if someone else holds trademark rights in red soles—but also why the makers of shoes in other colors do not need the same freedom.²⁰⁴

Second, branding (or linguistics) experts can identify and distinguish what is new and distinctive about a mark or product configuration from similarities that are driven by the standard elements of a product, logo, or brand. In that sense, a branding expert might pay attention to how the choice of colors or shapes in a logo or even the linguistic structure of an invented word is dictated by the literature on how consumers react to design. From the branding expert's viewpoint, similarities between a plaintiff's trademark and the defendant's use might be minimized if the only things they have in common are standard marketing techniques understood to appeal to particular consumers.²⁰⁵

The ultimate purpose of trademark law is to promote free competition and fair commerce.²⁰⁶ The law ought to protect brands without interfering with free competition.²⁰⁷ The expert perspective can help keep the law from locking up important words, designs, or product configurations, and therefore their perspective is critical in any trademark infringement case.

More generally, the expert audience is central to the idea that a defendant infringes an IP right only by taking some substantial portion of what the plaintiff contributed to the world. When a work makes a material contribution above and beyond those already made in the field, it ought to be encouraged (often with an IP right of its own), not considered an infringement. Conversely, there is no similar need to encourage works that do not make a material contribution to the relevant field.

B. *Consumers and Market Substitution*

The importance of the expert perspective in all areas of IP does not mean, however, that the consumer's perspective is irrelevant. Quite the contrary. Consumers as a class are, at least in theory, more attuned than experts to whether the defendant's product substitutes for the plaintiff's in the marketplace.²⁰⁸ Market substitution—whether consumers view particular works

204. *Cf.* *Christian Louboutin S.A. v. Yves Saint Laurent Am. Holding, Inc.*, 696 F.3d 206, 212 (2d Cir. 2012) (holding that a trademark holder to a lacquered red sole on footwear cannot hold such rights as against the seller of monochromatic red footwear with a similar red sole, even though the trademark is otherwise generally valid as against others).

205. By the same token, similarity might be maximized when both parties use the plaintiff's selling innovation, such as adoption papers for dolls. *Cf.* *Original Appalachian Artworks, Inc. v. Granada Elecs., Inc.*, 816 F.2d 68, 74–75 (2d Cir. 1987) (holding that the owner of the Cabbage Patch Kids trademark for dolls is entitled to injunctive relief from American sales of a Spanish version of the dolls lacking the same adoption process as the trademarked dolls even though the adoption process is a central aspect of the dolls' desirability).

206. *See supra* Section I.A.

207. *See supra* Section I.A.

208. *See supra* Sections II.A–B.

as interchangeable—matters because IP rights are designed to serve the social purpose of encouraging valuable products, goods, or services to be created and made available in the marketplace, not merely to allocate ownership or enforce some moral right.²⁰⁹ IP rights impose costs on society, so we want them to be asserted only when the IP owner faces market risk from infringement.²¹⁰

We could say that Coca-Cola has the right to prevent anyone from using the word “Coke” in any context whatsoever, from advertising a competing product to parodying the soda to writing about it in a newspaper or even talking about it at a dinner party. But we don’t do that because such uses do not cause any market harm to Coca-Cola.²¹¹ The terms appear similar (indeed, identical) to the expert, but the defendant’s use isn’t competing with or substituting for the plaintiff’s; their respective uses are directed at entirely different markets.²¹² Similarly, an accused hook-and-eye closure must act as a substitute to consumers in the marketplace in order to cause harm to the inventor of Velcro, just as one artist’s painting must act as a substitute for other paintings in the marketplace in order to cause harm to the owner of those paintings. The inventor of a fastener for shoes isn’t necessarily entitled to control the use of a similar fastener in heart surgery. The technical principle is the same, but that doesn’t mean we want to prevent the use of that principle in a completely different context. Similarly, one who takes a photograph of President Obama isn’t necessarily entitled to control a painting made from that photograph.²¹³ Using the photograph in a completely different context may be copying the photograph as a technical matter, but if the photograph is used for a transformative purpose in a different market, we generally don’t want the copyright owner to control that use.

Market substitution, like similarity from an expert’s vantage point, is tied to IP’s goal of encouraging innovation. A use that does not interfere with the IP owner’s market generally does not interfere with the incentives to innovate that IP rights create. In fact, IP owners’ efforts to take control over the use of their works in completely different markets create the biggest

209. See *supra* Part I (describing the underlying goals of the various IP regimes).

210. See *supra* Part I (describing this as a limitation in various ways on the different IP regimes).

211. Some of the uses may cause harm, but the harm is attributable not to the use of the term itself but to lawful competition or other behavior. If Pepsi persuades consumers that it is better or cheaper than Coke, any harm is not attributable to the use of the term “Coke” in the advertisement. Cf. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 591–92 (1994) (observing that in copyright, a scathing review that suppresses the market for the original is not an infringing use). For an argument that trademark infringement should require proof of injury, see Mark A. Lemley & Mark McKenna, *Irrelevant Confusion*, 62 *STAN. L. REV.* 413, 448–48 (2010). For an argument that that injury must come in a relevant market, not merely allow the trademark owner to claim control of its mark in all markets, see Lemley & McKenna, *supra* note 4.

212. See Lemley & McKenna, *supra* note 4.

213. These were the facts of the Associated Press’s copyright suit against Shepard Fairey for painting the Obama Hope poster. See William W. Fisher III et al., *Reflections on the Hope Poster Case*, 25 *HARV. J.L. & TECH.* 243, 245–254 (2012).

problems for the IP system, from trademark owners' attempts to control parodies, merchandise, and uses on unrelated goods to copyright owners' attempts to control transformative uses of a picture in a search engine or a work of history and efforts by "nonpracticing entities" or patent trolls to prevent the use of an invention developed in one context to drive a product in an entirely different context.²¹⁴

Like many other areas of law, the consumer or market perspective should include objective as well as subjective components. That is, while the law should care about what actual consumers think, it should also impose constraints on what beliefs the law should credit. Many areas of law—such as the Fourth Amendment's protection when there is an expectation of privacy—require both subjective and objective evidence: in this Fourth Amendment context, a defendant's expectation of privacy must be both actual and reasonable so as to ensure that the expectation actually existed and is one to which the law wants to give credence.²¹⁵ Similarly, proof of market harm should require both evidence that consumers actually find the goods to be substitutes and a conclusion that those consumers' beliefs are reasonable and therefore something the law wants to credit.²¹⁶

C. *Testing Both Technical Similarity and Market Substitution*

For these reasons, we think that as a general matter, IP laws should find infringement only when a work is too similar to a protected work, judged from both the expert's and consumer's vantage point.²¹⁷ Accordingly, the proper audience in IP infringement cases is both the expert and the consumer.²¹⁸

214. Consumers may change their views over time as to whether works are market substitutes. For example, consumers might initially see two pain relievers with different chemical formulations as market substitutes, but if one becomes known to have certain side effects or benefits that the other does not, consumers might no longer see them as substitutes. Or works that consumers originally interpret to be different—say, shoelaces and Velcro—later come to be seen as substitutes for one another. If market relationships change over time, the relevant period is the time of infringement; that is the period during which defendant's actions would harm an IP owner in the marketplace.

215. See, e.g., *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring).

216. For a related discussion on the extent to which IP law serves as a "norm entrepreneur" rather than a "norm follower," see Dogan & Lemley, *supra* note 12.

217. Another path to a similar end might be to assess infringement from the expert's point of view alone and then impose damages or other remedial measures only in proportion to market harm from the consumer's perspective. Cf. *Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901 (N.D. Ill. 2012) (Posner, J., sitting by designation) (dismissing a patent infringement case after a finding of infringement on the basis that there were no damages to the plaintiff). Alternatively, a similar result can come about through standing rules: say, by permitting standing to sue for infringement only when there has been harm to the plaintiff in the marketplace and then assessing infringement only from the expert's point of view.

218. The third possibility, the ordinary person, seems to serve less of a clear purpose and, generally, courts that use the ordinary observer do so as a distorted proxy for the views of the consumer. As such, we do not discuss it further here. For discussion and criticism of the ordinary-observer standard, see Manta, *supra* note 159. When there is strong reason to believe

Under our approach, products that are substitutes in the eyes of consumers but not too similar in the eyes of experts will not be deemed to be infringing, just as products that are similar enough to satisfy experts but that consumers don't consider substitutes will not be deemed to be infringing. Using both the consumer and the expert as the audience has two major effects. First, it allows defendants to sell products that compete with the IP owner's product but work in different ways from an expert's vantage point, thereby both expanding consumer choice and lowering prices. IP rights are not intended to control entire markets. If a defendant can compete by introducing a different product, the law should encourage it to do so. Using expert audiences to focus on technical similarity promotes that goal. It permits many strands of research and creativity to proceed in parallel, and much of that research will lead to even greater advances and contributions in both related and unrelated ways.²¹⁹

Second, our approach allows a third party to engage in a use that doesn't create market harm because it doesn't substitute for the plaintiff's actual or likely future products. This permits a variety of transformative reuses of both creative and inventive works, which not only increases dissemination of creative works but also allows for the sorts of remix and user creativity that may themselves be essential to human flourishing.²²⁰ And it does so without imposing any significant cost on the IP owner, who does not face market substitution. The consumer audience is best suited to distinguish between things that interfere with the IP owner's market and those that don't because the consumer's focus is likely to be more functional and market-regarding than an expert's.

For this approach to work, we must have some conception of the market in which the IP owner has interests. If IP owners are free to argue that the entire world is their market because they could demand a license fee in exchange for not suing someone who uses their work in a particular way, the market substitution test becomes circular and ultimately empty.²²¹ The precise definition of the market is a subject for future work, but as a general matter, we think IP owners should have to show either that they sell a relevant product in the same market as the defendant or that they are likely to enter that market in the near future.²²²

An alternative, broader formulation would cede to IP owners rights in those markets in which they can show an established practice of licensing.

in a particular context that the expert view might be a proxy for the consumer view or vice versa, an IP infringement inquiry can investigate the views of just one of these audiences to get a sense of both of them.

219. See Fromer, *supra* note 48, at 547–54.

220. E.g., LAWRENCE LESSIG, REMIX: MAKING ART AND COMMERCE THRIVE IN THE HYBRID ECONOMY (2008); Katherine J. Strandburg, *Users as Innovators: Implications for Patent Doctrine*, 79 U. COLO. L. REV. 467 (2008).

221. See, e.g., Mark A. Lemley, *Should a Licensing Market Require Licensing?*, LAW & CONTEMP. PROBS., Spring 2007, at 185; Lemley & McKenna, *supra* note 4.

222. See also *supra* note 145 (discussing the relationship of our invocation of “market substitution” to its application in antitrust law).

This would be consistent with copyright's current approach to fair use²²³ and with patent law's current view that patentees should be paid a reasonable royalty even without market substitution.²²⁴ A consumer audience might adopt a similar approach; that certain uses are traditionally licensed while others are not might be reflected in consumer instincts that an IP owner deserves to be paid.²²⁵ But a focus on already established licensing markets is intellectually unsatisfying because it presumes the status quo as an arbitrary baseline.

With these tentative thoughts on market substitution, we turn to the role that market substitution and technical similarity ought to play in IP infringement.

1. Bringing Market Substitution to Patent Law

That market substitution ought to matter to patent infringement suggests a need to rethink important aspects of patent law. The market substitution inquiry makes the most sense when the patentee—either on its own or through a licensee—is commercializing its invention. In that case, courts can consider actual consumer evidence on substitution in the marketplace.²²⁶ Adding market substitution to the patent-infringement inquiry would curtail the scope of a commercialized patent to just those subsets of the patented invention that the patentee sought to exploit. Perhaps that is a good thing in light of patent law's goal of encouraging technological and scientific innovation. That is, one might argue that a patentee would truly be harmed in the marketplace only in relation to consumer substitutes for those implementations of a patented invention that the patentee has introduced into the marketplace, whether by herself or through a licensee. If the patentee (through no fault of a third party²²⁷) does not exploit the full scope of her

223. See, e.g., *Am. Geophysical Union v. Texaco Inc.*, 60 F.3d 913, 926–31 (2d Cir. 1994). But cf. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 585 n.18 (1994) (“If [a] use is otherwise fair, then no permission need be sought or granted.”).

224. See 35 U.S.C. § 284 (2006) (“Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.”).

225. Even under this broader approach, however, it is not clear that the IP owner should have the right to control the market rather than just to receive compensation for uses. See Alex Kozinski & Christopher M. Newman, *What's So Fair About Fair Use?*, 46 J. COPYRIGHT SOC'Y U.S.A. 513 (1999) (arguing that fair use should be replaced with a system of compulsory licenses); Lemley, *supra* note 221.

226. Even then, a court might sometimes face difficult questions about who the consumer actually is. One such context involves pharmaceuticals and medical devices: Is the consumer the doctor who prescribes particular medication for a patient or buys a medical device to use on a patient? Or is the consumer the patient who takes the drug or on whom the doctor operates? Cf. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012) (assessing the patentability of methods for calibrating the proper dosage of thiopurine drugs to treat autoimmune disorders).

227. Because a patent right provides a right to exclude others from using the patented invention and because improvements on the invention might be patented, it is possible for

invention, according to this reasoning, the patentee would be “penalized” by limiting the scope of the invention to accused products that consumers would consider substitutes.²²⁸

Patent law does not currently require that patented inventions be commercialized.²²⁹ As a result, the law has seen the rise of nonpracticing entities (or so-called patent trolls) holding patents but not themselves making products; in fact, such entities are now responsible for over 50 percent of all patent suits.²³⁰ If we required commercialization as proof of market substitution, nonpracticing entities would bear the brunt of that penalty because they neither practice the invention nor grant exclusive licenses to others to do so. A true commercialization requirement would render their patents worthless unless and until they entered the market themselves or found an exclusive licensee.

Courts appropriately take account of the market relationship between the inventor and the accused infringer in optimizing patent scope. But depriving all nonpracticing entities of the entire value of their technology would go too far.²³¹ One possibility in this situation is to imagine, from the consumer’s vantage point, whether the defendant’s product would act as a market substitute for a hypothetical product within the plaintiff’s patent scope. That is, the question of market substitution in patent infringement is whether the patented invention—commercialized or not—and the defendant’s product would operate in the same market. While the issue might be easier to analyze when there is an actual marketplace, we see no reason that the issue cannot also be addressed hypothetically.²³² If the infringer’s product substitutes for the patentee’s idea, the patentee is entitled to compensation for that use whether or not the patentee itself makes a competing product.

By contrast, a focus on market substitution in patent law should also lead to a defense for those who use the patented invention in a new and

someone to hold a valid patent to an invention that the patentee has no right to use. *See* 35 U.S.C. § 154(a). For example, a patent holder for a rocking chair might not be able to make and sell the invention if there is a valid patent on a normal chair because making the rocking chair would also necessarily infringe the basic chair patent.

228. *Cf.* Christopher A. Cotropia, *The Folly of Early Filing in Patent Law*, 61 HASTINGS L.J. 65 (2009) (arguing that patent plaintiffs should have to reduce their inventions to practice before asserting their patent); Sichelman, *supra* note 51 (proposing that commercialization be encouraged through commercialization patents).

229. *See* Sichelman, *supra* note 51, at 343.

230. Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2119 n.13 (2013) (citing sources); *cf.* Christopher A. Cotropia, Jay P. Kesan & David L. Schwartz, *Unpacking Patent Assertion Entities (PAEs)* 4–5 (Univ. of Ill. Coll. of Law Program in Law, Behavior & Soc. Sci. Research Paper Series, Paper No. LBSS 14-20, 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2346381 (finding that practicing entities filed just under half of all patent suits in 2012).

231. *See* Lemley & Melamed, *supra* note 230, at 2119 n.13 (arguing that trolls are not bad per se but are a symptom of problems with the patent system).

232. Patent law embraces the hypothetical in employing the person having ordinary skill in the art as a hypothetical construct. *See supra* text accompanying notes 66–73.

unrelated context. Repurposing technology is an important part of the innovative process and one that patent law currently does too little to encourage.²³³ American patent law has no fair-use defense,²³⁴ no real defense for experimental use,²³⁵ and virtually no defense even for radical improvers.²³⁶ In each of these cases, patent law has chosen to focus on technical similarity, even when market substitution seems unlikely or when allowing the defendant's product is desirable for other reasons. Patent law should encourage not just initial invention but follow-on improvement.²³⁷ Using the consumer's perspective to evaluate how the defendant's product compares to what the plaintiff invented, whether by restricting the definition of infringement or adopting a fair-use or transformative-use defense, can help encourage invention and improvement.

2. Mandating Similarity in Trademark Law

If patent law focuses too much on the expert, trademark law presents the opposite problem. Because the audience is typically deemed to be consumers, who tend to focus on market substitution, trademark law pays more attention to market substitution than to technical similarity from the expert's point of view. As such, trademark law finds a defendant's mark infringing if the similarity between the marks would confuse any minimally significant number of consumers.²³⁸ If people think that a basketball game's start time is the result of a deal with a trademark owner, the trademark owner gets the right to control that starting time.²³⁹

Trademark law does have some limitations that require at least a minimum level of technical similarity. Trademark protection cannot extend to generic terms because protecting those terms would impose heavy costs on those competing in the relevant industry to describe their goods or services.²⁴⁰ Even the presence of a generic term in a composite mark is not itself

233. See Strandburg, *supra* note 220 (discussing the importance of user innovation and its implications for patent law).

234. See generally Maureen A. O'Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. 1177 (2000) (arguing for the introduction of a fair-use defense in patent law); Katherine J. Strandburg, *Patent Fair Use 2.0*, 1 U.C. IRVINE L. REV. 265 (2011) (advancing a proposal for a fair-use defense in patent law).

235. See generally Katherine J. Strandburg, *What Does the Public Get? Experimental Use and the Patent Bargain*, 2004 WIS. L. REV. 81 (discussing the potential benefits of a well-designed experimental-use defense).

236. See *Tate Access Floors, Inc. v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1368 (Fed. Cir. 2002).

237. Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 843–44 (1990); see also Lemley, *supra* note 10.

238. See *supra* Section I.A.

239. In fact, in at least one case there is a real relationship. See Mark P. McKenna, *Trademark Use and the Problem of Source*, 2009 U. ILL. L. REV. 773, 823 (discussing 7-Eleven's licensing deal with a baseball team to start its games at 7:11 p.m.).

240. See Dogan & Lemley, *supra* note 23, at 793–94.

protectable.²⁴¹ For example, Apple is entitled to prevent other computer companies from using the word “apple” but not from using the word “computer”; and it cannot prevent fruit companies from using the term “apple.” But because the fact finder examines the entire mark in his assessment and because the law prohibits “dissection” of the mark into protectable and unprotectable components,²⁴² trademark law gives the fact finders the entirety of these composite marks and asks them to assess likelihood of confusion. The presence of the generic term may well influence a jury to find the defendant’s mark—say, Pineapple Computer²⁴³—similar, even though it is not supposed to consider the use of the generic term. The less obvious it is that a term is generic, the more likely this problem is to occur. Thus, Nuthatch Honey Brown Ale might be found to infringe Nutlee’s Honey Brown Ale, even though the courts have held that the term “Honey Brown Ale” is generic.²⁴⁴

A similar story can be told of functional marks and marks that third parties use descriptively or for purposes of parody.²⁴⁵ Functional marks are not to be protected under trademark law even if they have acquired meaning as a brand signifier to consumers.²⁴⁶ The reason for this is similar to that for denying protection to generic marks: it is too harmful to fair competition in the industry to declare off limits a functional component of a good or service.²⁴⁷ We are not entitled to own “round” as the shape of our tires, no matter how much people associate that shape with our products, because others need their tires to be round. And because of similar harms to commerce and free speech,²⁴⁸ trademark law does not consider as infringement third parties’ use of otherwise valid trademarks to describe their own good or service or to parody the trademark or its associated goods or services.²⁴⁹

In all of these instances, the exclusive reliance on consumer perception—and therefore primarily on market substitution—is a problem for trademark law. It means that there is no logical limit to the scope of trademark law: whatever consumers think the law is, the law should become.²⁵⁰ If trademark law is to have any constant meaning, it must come from some

241. See, e.g., 15 U.S.C. § 1064 (2012).

242. 1 MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION, *supra* note 31, § 7:36.

243. Apple Computer, Inc. v. Formula Int’l, Inc., 725 F.2d 521 (9th Cir. 1984) (enjoining use of “Pineapple” as a mark for computers).

244. Genesee Brewing Co. v. Stroh Brewing Co., 124 F.3d 137 (2d Cir. 1997).

245. See *supra* text accompanying notes 203–207.

246. Traffix Devices, Inc. v. Mktg. Displays, Inc., 532 U.S. 23, 28–29 (2001).

247. Jay Franco & Sons v. Franek, 615 F.3d 855, 859 (7th Cir. 2010).

248. See Mark Bartholomew & John Tehranian, *An Intersystemic View of Intellectual Property and Free Speech*, 81 GEO. WASH. L. REV. 1, 41–54 (2013).

249. See, e.g., TCPIP Holding Co. v. Haar Commc’ns Inc., 244 F.3d 88, 103–04 (2d Cir. 2001).

250. For criticism of this fact, see Dogan & Lemley, *supra* note 12, at 1691, and Lemley & McKenna, *supra* note 211.

limits, either on what trademark law will protect or on the degree of similarity required for a finding of infringement. Those limits can't easily take the form of rules because there is no magic "80 percent similarity" threshold for mark sameness. But trademark law should consider technical similarity from the expert's vantage point beyond simply throwing it into the overall question of whether consumers are likely to be confused. This consideration would allow branding and industry experts to offer relevant evidence on the genericness, functionality, descriptiveness, or parodic aspects of the trademark and the defendant's use.

Finally, the audience in trademark law is connected to the dispute over the extent to which trademark courts should set standards for consumer behavior rather than merely follow what consumers already think.²⁵¹ A purely fact-finding role for trademark law based on consumer viewpoints is ultimately circular: conduct is illegal if consumers think it is illegal. The (il)logical extreme of this approach is to ask the public what they think the law is (or ought to be) and make the law conform to whatever they say.²⁵² Because trademark law focuses on the least sophisticated 10 percent of consumers,²⁵³ the result may be not just a circle but a spiral, in which the more we coddle consumers, the less able they are to distinguish different goods and services.²⁵⁴ That in turn would make broader swaths of competition unlawful, to the detriment of the very ends trademark law is supposed to serve. As Stacey Dogan and Mark Lemley explain,

We can demonstrate this point with a seemingly extreme example. Most everyone would presumably agree that a grocery store should be allowed to locate generic colas on a shelf next to Coca-Cola. But why? One would say, perhaps, that such uses do not confuse consumers into thinking that Coke licenses the placement or sponsors the generic colas. But if consumers are not confused about sponsorship, it is only because the law has long permitted such uses, and so consumers accept and understand them. That is not an inevitable result, however. Had the courts said at the outset that trademark owners could sue to prevent such placement—reasoning that consumers might think that proximity implied association and diverted sales, as evidenced by the fact that product sellers pay grocery store owners for shelf placement—one can easily imagine a world in which grocery stores had to separate like products to avoid any risk of association. Further, even

251. Compare Dogan & Lemley, *supra* note 12, at 1671–73 (noting that focusing on consumer confusion to the exclusion of trademark use has led to the expansion of trademark protections), with Graeme B. Dinwoodie & Mark D. Janis, *Confusion Over Use: Contextualism in Trademark Law*, 92 IOWA L. REV. 1597, 1602 (2007) (arguing against adopting the trademark-use theory because it would prevent trademark law from policing new markets).

252. See *Anheuser-Busch, Inc. v. Balducci Publ'ns*, 28 F.3d 769, 772–78 (8th Cir. 1994) (finding infringement based on evidence that while only 6 percent of consumers were actually confused by the defendant's ad, nearly half of those surveyed thought that the defendant should have to get permission from the plaintiff to run the ad).

253. See *supra* text accompanying note 37.

254. Cf. James Gibson, *Risk Aversion and Rights Accretion in Intellectual Property Law*, 116 YALE L.J. 882, 908–12 (2007) (describing how courts expand trademark protections based on consumer perceptions of trademark norms).

if a finding of confusion seemed unlikely, many companies would agree to change their behavior or take a license rather than pay to litigate a case all the way to trial and risk losing. This, in turn, would mean that consumers would not be used to seeing all the colas grouped together and would make it harder for anyone else to make such a use because, over time, the placement of generic cola beside Coke would be more surprising to consumers. And if no one else is putting generic colas next to Coke, it is an easy mental step to conclude that a grocer that does so is free riding on Coke's interest in being insulated from nearby competitors, particularly if the grocer is making money directly or indirectly from the placement or sales of generic colas.²⁵⁵

It seems reasonable to draw a line at some point and say that the law will simply refuse to countenance some theories of consumer confusion. Perhaps that line should be drawn at nontrademark uses.²⁵⁶ Perhaps it should be drawn at uses that cause no injury to the trademark owner.²⁵⁷ But regardless of where we draw the line, there is surely some point at which the law ought to deny trademark owners relief, even if they could adduce evidence of 10 percent confusion or evidence of a defendant's intent to "free ride" on an existing mark.²⁵⁸ Too much emphasis on consumer confusion may undermine rather than promote competition in the marketplace, which is trademark law's basic goal.²⁵⁹ And an exclusive focus on the consumer perspective may de-emphasize the normative function the fact finder should serve in trademark law.

3. Copyright's Hybrid

Unlike trademark and patent law, copyright does assess infringement using a hybrid of technical similarity and market substitution from the vantage point of both the consumer and the expert. The Ninth Circuit in particular recognizes that two vantage points ought to be used: the expert and the ordinary reasonable observer.²⁶⁰ While we would use the consumer instead of the ordinary reasonable observer for the reasons described above,²⁶¹ and while we have some problems with the way it applies the test, the Ninth Circuit is correct to recognize that given copyright law's underlying goals, multiple vantage points matter. In any event, copyright is at least trying to ask both of the relevant questions: How similar is the defendant's product to the plaintiff's creative contribution, and what is the marketplace impact of that similarity? In doing so, copyright provides room for transformative reuses of a work in productive contexts as well as encourages differentiated

255. Dogan & Lemley, *supra* note 12, at 1694–95.

256. *Id.*

257. Lemley & McKenna, *supra* note 211.

258. For explanations of the ultimately empty nature of the anti-free-riding impulse, see Dogan & Lemley, *supra* note 12, at 1694, and Lemley & McKenna, *supra* note 4, at 138–42.

259. See *supra* text accompanying notes 20–25.

260. See *supra* Section I.C.

261. See *supra* note 218.

competitive products that constrain the copyright owner's market power.²⁶² That doesn't mean copyright is a perfect model; indeed, we suggest above that copyright courts should take various approaches to integrating this evidence.²⁶³ But copyright law is at least asking many of the right questions.²⁶⁴

Substantial-similarity analysis is not the only place in copyright where both expert and consumer views would be beneficial. Fair use, copyright law's major defense against infringement, would also benefit from an explicit appreciation of both consumer and expert views. The doctrine of fair use excuses infringement on an equitable basis, looking to such factors as "the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes," "the nature of the copyrighted work," "the amount and substantiality of the portion used in relation to the copyrighted work as a whole," and "the effect of the use upon the potential market for or value of the copyrighted work."²⁶⁵ While the line between infringement and fair use is murky,²⁶⁶ certain categories of works tend to be favored as fair: parodies or other uses that transform the original work into one with a new meaning, uses of copyrighted works in news reporting or historical research, and uses in comparative advertising, to

262. On the economics of product differentiation, see Christopher S. Yoo, *Copyright and Product Differentiation*, 79 N.Y.U. L. REV. 212 (2004).

263. One of us has argued that most copyright cases get this process backwards, emphasizing technical similarity when they should focus on market equivalence and emphasizing market substitution when it is technical similarity that matters. Lemley, *supra* note 99. *But see* Shyamkrishna Balganesh, *The Normativity of Copying in Copyright Law*, 62 DUKE L.J. 203 (2012) ("[S]ubstantial similarity remains an unappreciated source of flexibility and pluralism in copyright law.").

Irina Manta has argued that copyright should turn to survey evidence to determine what consumers really think. Manta, *supra* note 159. Although surveys in the context of copyright law raise a number of unique concerns (such as the feasibility of surveying consumers about lengthy works, such as multihour movies or books containing hundreds of pages) in addition to more general worries of bias in surveys, with appropriate constraints surveys might sometimes help improve the decisionmaking process.

264. This analysis applies more directly to infringement cases assessing copyright law's exclusive right of reproduction, 17 U.S.C. § 106(1) (2012), than the right "to prepare derivative works based upon the copyrighted work." *Id.* § 106(2). The former, as understood by the courts, assesses substantial similarity as we describe above. *See supra* Section I.C. The latter right seems directly to contemplate that copyright holders can have rights in works that are not market substitutes with those they have already created but that extend into related, derivative markets, such as a novel and a stuffed animal portraying a character in the novel. *See* 17 U.S.C. § 101 (defining "derivative work"). Our analysis provides even more reason for evaluating the adaptation right in derivative works separately from the reproduction right, as some scholars suggest. *See* Paul Goldstein, *Derivative Rights and Derivative Works in Copyright*, 30 J. COPYRIGHT SOC'Y U.S.A. 209, 230 (1983); Pamela Samuelson, *The Quest for a Sound Conception of Copyright's Derivative Work Right*, 101 GEO. L.J. 1505, 1534 (2013).

265. 17 U.S.C. § 107; *see also* *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 577 (1994).

266. *See, e.g.*, Gideon Parchomovsky & Kevin A. Goldman, *Fair Use Harbors*, 93 VA. L. REV. 1483 (2007).

name a few.²⁶⁷ The four traditional fair-use factors often point in favor of these works in these classes of cases, principally because they do not compete in the market with the copyrighted work and because they are valuable in promoting the progress of culture and knowledge.²⁶⁸ These two reasons are precisely those that draw from the consumer and expert vantage points, respectively, in copyright law. Copyright's hybrid audience, then, is intimately related not only to its infringement analysis but also to the fair-use doctrine.

4. A Missed Opportunity: Design Patents

Design patent infringement traditionally required evidence of both technical similarity and market substitution.²⁶⁹ Unfortunately, recent changes in the law have all but abandoned design patent's traditional reliance on technological substitution.²⁷⁰ Unlike utility patents covering inventions, which are defined by the language of written claims, design patents covering new ornamental features of an object are defined in substantial part by a drawing of the patentee's design.²⁷¹ The basic test for infringement of a design patent is the ordinary observer test, which assesses "whether an ordinary observer, familiar with the prior art, would be deceived into thinking that the accused design was the same as the patented design."²⁷² That test had long been supplemented by a requirement that the defendant have appropriated the invention's point of novelty. If the defendant's use didn't include the novel feature(s) in the patentee's design, it couldn't infringe.

In 2008, however, in *Egyptian Goddess, Inc. v. Swisa, Inc.*,²⁷³ the Federal Circuit changed the law of design patents to eliminate the point-of-novelty test for infringement. The court worried that a focus on the point of novelty would confuse fact finders, particularly in the subset of cases in which the patentee's invention was a combination of existing features rather than the development of a new one.²⁷⁴ The focus, as with utility patents, must be on the overall appearance of the whole design, not on "small" differences at the point of novelty.²⁷⁵ Novelty still matters but now only as a defense that must

267. Pamela Samuelson, *Unbundling Fair Uses*, 77 *FORDHAM L. REV.* 2537, 2544–46 (2009).

268. See, e.g., *Campbell*, 510 U.S. at 576–94 (parodies); *Bill Graham Archives v. Dorling Kindersley Ltd.*, 448 F.3d 605, 608–15 (2d Cir. 2006) (historical research); *Sony Computer Entm't Am., Inc. v. Bleem, LLC*, 214 F.3d 1022, 1025–30 (9th Cir. 2000) (comparative advertising).

269. See *supra* Section I.D.

270. See *supra* Section I.D.

271. See *Design Patent Application Guide*, U.S. PAT. & TRADEMARK OFF., www.uspto.gov/patents/resources/types/designapp.jsp (last visited Feb. 7, 2014).

272. *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 672 (Fed. Cir. 2008) (en banc).

273. *Id.* at 678.

274. *Id.* at 676–78.

275. *Id.* at 677–78.

generally be assessed separately from infringement.²⁷⁶ And the doctrine of functionality, which in theory should prevent design patents from hindering market competition based on the operation of the product rather than on its function, has been interpreted so narrowly as to be virtually meaningless.²⁷⁷

The move away from the novelty of the design patent to exclusive reliance on the ordinary-observer test is a move away from a hybrid scheme to an exclusive reliance on market substitution. Design patent law used to require both a minimum level of technical similarity and a similarity in consumer appeal; now it requires only the latter. We think this is a mistake²⁷⁸ because it allows evidence of market substitution alone to prove infringement, regardless of whether the defendant copied the novel features of the plaintiff's patent at all. The justification for granting a design patent is not the patentee's desire to own a market but the supposed novelty of the design. Ignoring technical similarity from the expert's vantage point divorces the assessment of infringement from the justification for having the design patent in the first place. We think design patent should properly be concerned only with a combination of technical similarity and market substitution.

Understanding the different ways in which IP regimes approach the audience question should cause us to reevaluate our general theory of IP infringement. When we do, we find that both the consumer and expert approaches have something to teach us. None of the IP regimes has a monopoly on wisdom when it comes to infringement. Integrating the perspectives of the expert and the consumer allows us to refocus infringement analysis. We should not choose technical similarity over market substitution

276. *Id.* at 678–79.

277. See *Avia Group Int'l, Inc. v. L.A. Gear Cal., Inc.*, 853 F.2d 1557, 1563 (Fed. Cir. 1988); Mark P. McKenna & Katherine J. Strandburg, *Progress and Competition in Design*, 17 *STAN. TECH. L. REV.* 1 (2013) (discussing the limited use of functionality in design patent law); J.H. Reichman, *Design Protection and New Technologies: The United States Experience in a Transnational Perspective*, 19 *U. BALT. L. REV.* 6, 40 (1989); Michael Risch, *Functionality and Graphical User Interface Design Patents*, 17 *STAN. TECH. L. REV.* 53 (2013) (discussing the cramped reading of obviousness in design patents).

278. One of the authors has criticized the rule as follows:

Think about this for a minute. It is no longer the law that the defendant must incorporate the very thing that makes the patented invention patentable. As long as an ordinary observer would confuse the two products, the fact that that confusion arises from similarities that already exist in the prior art doesn't defeat a finding of infringement. It might or might not create a defense that the patent is invalid for anticipation, though again that seems to depend on what an ordinary observer would think when comparing the patented design and the prior art. Translated for a moment into terms of utility patents, it is as though we granted a patent on a car having an intermittent windshield wiper as the novel feature and then allowed the patentee to sue a car maker that didn't include that feature because the cars otherwise had the same elements. That can't possibly be the right rule.

Lemley, *supra* note 138, at 1271 (footnote omitted).

or vice versa; infringement should properly require both. Because it does in fact require both, deciding an IP infringement case necessitates both expert and consumer perspectives. This dual focus can both explain significant doctrines in current law, like fair use in copyright, and point the way to new rules in patent and trademark law that confront the very real problems in those areas.

There is much to be done to turn this conceptual vision of IP infringement into reality. More work will be required to think through the ramifications of our dual approach for various IP doctrines. We have identified a few major changes, but there will doubtless be others. And there may be reasons to depart from the general model in particular circumstances. There are also practical concerns with implementation. Because there are two relevant audiences in IP infringement cases, fact finders need to do two jobs: model the expert and model the consumer. As outlined above, there are a number of complications in figuring out how best to assess each of these views in IP infringement cases.²⁷⁹ Even beyond these issues, there is the problem of how to channel each of these audiences without confusing the fact finder or causing the fact finder to defer to one viewpoint at the expense of the other.²⁸⁰ Courts will either have to bifurcate the technical and market inquiries among different fact finders or engage in a complex channeling inquiry. Those are similar to problems courts have addressed before, and we are confident they are manageable issues.²⁸¹ But courts will have to work to find the right balance in the new hybrid system.

CONCLUSION

IP regimes have traditionally offered no coherent answer to the question, “From whose perspective should we judge infringement?” That incoherence reflects divergent views over whether IP should care about technical similarity or market substitution, and hence whether it is the expert, the ordinary observer, or the consumer who is the proper audience in IP infringement. We are the first to identify this distinction and show that the different approaches IP regimes take to proving infringement are traceable to the different conceptions of the proper audience in each regime.

As a normative matter, we argue that IP infringement—across trademark, patent, copyright, and design patent laws—should generally require

279. See *supra* Part I.

280. An example of undue influence involves a copyright infringement lawsuit against the Bee Gees’ recording of the song, “How Deep Is Your Love?” *Selle v. Gibb*, 741 F.2d 896 (7th Cir. 1984). After the jury rendered a verdict of infringement against the Bee Gees, the jury foreman told the press that a major factor in the jury’s finding was that the plaintiff’s expert said the Bee Gees did not independently create their song, and the Bee Gees offered no expert testimony to rebut that suggestion. Maurice Possley, *Bee Gees Found Guilty of Plagiarism*, *ROLLING STONE*, Apr. 14, 1983, at 60, 60.

281. Cf., e.g., *Gregg v. Georgia*, 428 U.S. 153, 190–195 (1976) (joint opinion of Stewart, Powell, & Stevens, JJ.) (discussing the benefits of bifurcating proceedings in capital cases into guilt and punishment phases).

proof both that the two works are sufficiently similar in their novel aspects (technical similarity) and that the defendant's use interferes with the plaintiff's market (market substitution). Many of the problems in IP law come from decisions that neglect one aspect or the other. Thus, "the audience" in IP infringement is properly a hybrid: a domain expert who can assess similarity and a consumer who can assess substitutability. Copyright law has internalized this lesson, albeit imperfectly. Patent, trademark, and design patent laws can all learn from its example.