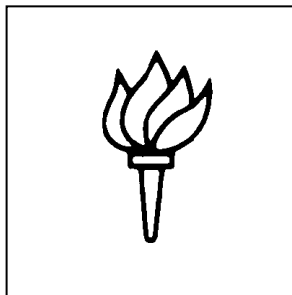


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The Audience in Intellectual Property Infringement¹

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Every IP right has its own definition of infringement. In this paper, 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. The fact that patent law 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 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. Assessing infringement through the expert's eyes ensures that the law prevents closely related works in the field while allowing later contributions to the field that are sufficiently different. The consumer vantage point ensures that we protect IP owners only when they have been harmed in the marketplace.

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IP owners who want to show infringement should have to show 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 market harm. Copyright law, which does look both to experts and to consumers at various points in infringement analysis, is on the right track.

At the heart of any intellectual property (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? The 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 due to their different chemical composition or the fact that they trigger a different pathway in the human body, whereas a customer might think them highly similar because of the drugs' similar success rates without side effects. An ordinary reasonable person might find insufficient similarity between two audiovisual works aimed at children depicting a fantasyland filled with fanciful creatures—say in part because a principal character in one work wears a “cummerbund,” while a major character to which it otherwise bears a resemblance in the other work wears a “diplomat's sash”—whereas the typical child consuming the works

would regard them as substantially similar.⁴ 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, while a consumer would do just the opposite.⁵ Consumers may focus on similarities in descriptive terms in brand names or functional aspects of packaging that producers understand not to indicate source.⁶

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, or brands. This critical link between the audience for IP infringement and which sorts of works get created underscores how important the optimal choice of audience is for achieving IP laws' goals of encouraging the creation of

⁴ Cf. *Sid & Marty Krofft Tele. Prods., Inc. v. McDonald's Corp.*, 562 F.2d 1157, 1166-67 (9th Cir. 1977) (observing in a copyright infringement suit by the creators of the H.R. Pufnstuf television program against McDonald's for a television commercial that "[w]e 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").

⁵ See Jamie Lund, *An Empirical Examination of the Lay Listener Test in Music Composition Copyright Infringement*, 11 VA. SPORTS & ENT. L.J. 137 (2011).

⁶ See Thomas R. Lee, Eric D. DeRosia & Glenn L. Christensen, *An Empirical and Consumer Psychology Analysis of Trademark Distinctiveness*, 41 ARIZ. ST. L.J. 1033 (2009) (showing that "[i]f a descriptive word mark is presented in a spatial placement, size, and style that matches the consumer's schematic mental model of what product labels and brand names look like, the word may be perceived as a source indicator even if its semantic meaning may be merely descriptive" (internal quotation marks omitted)); cf. *Traffix Devices, Inc. v. Mktg. Displays, Inc.*, 532 U.S. 23, 28-32 (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).

valuable works, products, or brands.⁷ But surprisingly, the question of the audience for IP infringement has largely been ignored in the academic literature⁸ and been under-theorized in judicial decisions.⁹

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 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(ets)*, 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.”).

⁸ 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 nonobviousness); Jamie Lund, *A Jury of Their Peers: Why Other Musicians Are the Intended Audience in Music Composition Copyright Cases* (2013) (unpublished manuscript). 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.

⁹ 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. See Aaron D. Twerski & James A. Henderson, Jr., *Manufacturer’s Liability for Defective Product Designs: The Triumph of Risk-Utility*, 74 BROOK. L. REV. 1061 (2009).

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. So 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, 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 results from the technical similarity of the protected product's novel attributes. Copyright 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 seems sometimes to pay attention to technical similarity and at other times to focus on market substitution.

The first goal of our article is descriptive. We think a focus on the audience in IP infringement—and recognition that each IP regime has a different audience in mind—helps

explain why four legal regimes with related goals¹⁰ nonetheless choose 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. The expert as audience ensures that we find infringement only when two works are sufficiently similar in their protectable elements.¹¹ 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. Assessing infringement through the expert's eyes thus ensures that the law protects contributions to the relevant field by caring when a defendant makes a too similar subsequent contribution as the plaintiff's. And when the defendant's contribution to the field is materially distinct from the plaintiff's, infringement ought not to be found.

¹⁰ That said, there are differences in the goals of these legal regimes, which we explore in Part I. As we explain in Part III, despite these differences, we think the basic audience for infringement ought to be the same for the four regimes.

¹¹ Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989 (1997). For an exploration of whether copyright law ought to seek to promote aesthetic progress, see Barton Beebe, Bleistein, *Copyright Law, and the Problem of Aesthetic Progress* (2013) (unpublished manuscript).

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.¹²

In Part I, we describe the different ways trademark, patent, copyright, and design patent law approach the definition of the relevant audience. In Part II, we elaborate and analyze the possible types of infringement audiences—the consumer, the expert, and the ordinary reasonable person—in IP law. We also discuss 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. We argue that IP infringement should require similarity from both the expert's point of view and the consumer's vantage point. Employing this framework, we evaluate how successful trademark, patent, copyright, and design patent laws are in matching goal to audience.

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

¹² Herbert Hovenkamp, *Markets in IP and Antitrust*, 100 Geo. L.J. 2133, 2149 (2012).

problems with each regime. We conclude with a few thoughts of 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 providing individuals with an incentive to create something intangible that might otherwise be easily appropriated.¹³

Because the things IP laws protect are intangible, communicating what the IP right covers is more difficult than with tangible items, whose bounds are easier to describe or depict.¹⁴ Moreover, because the things protected by IP laws are typically new or not generally known, the vocabulary to communicate what these items are is typically inadequate.¹⁵ Complicating the definition of the IP right is the fact that some forms of IP law, such as copyright law, do not require that the creator even attempt to articulate the bounds or characteristics of his or her creation; legal disputes in those cases involve comparing the

¹³ Lemley, *supra* note 11. 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 Mark P. McKenna, *The Normative Foundations of Trademark Law*, 82 NOTRE DAME L. REV. 839 (2007). 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. So while the goals are different, the structure of the right is similar in many ways to patents and copyrights. See, e.g., Jeanne C. Fromer, *The Role of Creativity in Trademark Law*, 86 NOTRE DAME L. REV. 101 (2011).

¹⁴ Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts?: Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1745 (2009); Jeanne C. Fromer, *Claiming Intellectual Property*, 76 U. CHI. L. REV. 719, 726 (2009).; Kristen Osenga, *Linguistics and Patent Claim Construction*, 38 RUTGERS L.J. 61, 65-66 (2006).

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

plaintiff's and defendants creations as a whole.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 a claim must always involve a judgment whether the allegedly infringing item is equivalent or too similar to the plaintiff's protected item.

Yet there is an additional underexplored layer of complexity in determining IP infringement. If we are to base infringement on some sort of 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 another words, even if we know what we are comparing the defendant's product to, who is the reference point against which a fact-finder is assessing infringement?

In this Part, we consider trademark, patent, copyright, and design patent law in turn, with 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

¹⁶ Fromer, *supra* note 14, at 743-49.

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

A focus on fair competition drives trademark law.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 is represented by the

¹⁷ See 15 U.S.C. § 1127 (2006) (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 trademark). See generally Deven 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 William M. Landes & Richard A. Posner, *Trademark Law: An Economic Perspective*, 30 J.L. & ECON. 265, 269–70 (1987).

trademark and helps consumers be certain they can easily find that for which they are looking.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 decision-making. To achieve this, trademark law guards against use of a too-similar mark that causes consumer confusion as to goods' or services' origin.²⁵

In light of trademark's general focus on consumers in the marketplace,²⁶ it is not surprising that the law focuses on consumers—and typically real ones rather than hypothetical ones—as its audience for infringement. There is a real customer base for branded products, and because the goal is to protect those customers from fraud, it is intuitive to focus on how those consumers will actually react. The basic test for trademark infringement is a multi-factor test for likelihood of confusion between the goods at issue, which asks whether real consumers are actually confused and also looks to other factors like similarity of the marks, proximity of

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

²⁴ See 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); Lemley & McKenna, *supra* note 7.

the goods, and the defendant's intent in selecting the mark.²⁷ Some of these factors rely on what the consumer thinks directly, as with evidence of actual confusion. Others factors appear to demand the vantage point of the consumer, although they are somewhat ambiguous as to whether the view of the expert or the consumer be used. For example, typically courts use the consumer vantage point on proximity of the goods or similarity of the marks, but sometimes they rely on experts to tell us what consumers think.²⁸ Yet other factors, notably intent, focus on the defendant's behavior rather than the consumer's reaction. Nonetheless, all in all, 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

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 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); *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 Ent. & 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, 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).

confusion, thereby allowing the jury to obtain evidence of how actual consumers in the market 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. Jurors may have experience with the brands in question, or may at least have encountered sufficiently similar issues while shopping that they can 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 that has a view from her own experience about whether two brands are confusingly similar will be influenced by that view.³²

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 making a purchase of an unimportant product, 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

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 twenty percent of a sample of decided cases, contrary to conventional wisdom).

³² 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 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, Adam Trahan & Heather Pruss, *Taking Account of the "Diminished Capacities of the Retarded": Are Capital Jurors Up to the Task?*, 57 DEPAUL L. REV. 679, 694-95 (2008).

marketplace, jurors will need to channel the real 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.³³ 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 the example) rather than their own.³⁴ Trademark law does account for this situation, by looking to confusion of actual consumers and including “consumer sophistication” as a factor in the analysis.³⁵ To do its job right, the jury in such a case would need to ascertain what these consumers think, not what they themselves think.

The divergence between juror and consumer is more systematic. Trademark law holds a brand infringing even if the overwhelming majority of consumers aren't confused, as long as even 10% are confused.³⁶ Thus, 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.

³³ See *Intel Corp. v. Advanced Micro Devices*, 756 F. Supp. 1292 (N.D. Cal. 1991) (presenting the issue whether “386” was a generic term for semiconductor chip architecture).

³⁴ *Id.* at 1293-95.

³⁵ See, e.g., *AMF*, 599 F.2d at 348.

³⁶ *Henri's Food Products Co., Inc. 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) (test is whether “an appreciable number of ordinarily prudent purchasers will be misled”). See generally ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 831 (5th ed. 2010).

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

B. Patent Law

Unlike trademark law, patent law exists to encourage scientific and technological innovation for society's benefit. Likely because of its focus on scientific and technological advances, patent law sets the expert as the target audience in IP infringement.

American patent law grants protection to inventors of useful, novel, and nonobvious inventions.³⁷ Patents are granted after successfully undergoing examination by the Patent and Trademark Office (PTO) to ascertain that an invention meets patentability conditions and the description in the patent application satisfies certain disclosure requirements.³⁸ The patent right permits the patentee to exclude others from practicing the invention claimed in the patent for a limited time, typically twenty years from the date the patent application was filed.³⁹

Utilitarianism is the dominant justification for American patent law.⁴⁰ According to utilitarian theory, patent law provides the incentive of exclusive rights for a limited duration to inventors to motivate them to create technologically or scientifically valuable inventions. The

³⁷ 35 U.S.C. §§ 101-103.

³⁸ *Id.* §§ 112, 131.

³⁹ *Id.* § 154(a).

⁴⁰ *Diamond v. Chakrabarty*, 447 U.S. 303, 307 (1980); *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 330-31 (1945); Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1597-99 (2003).

theory is that public benefits accrue by rewarding inventors for taking two steps they likely would not otherwise have taken: to invent, and possibly commercialize, in the first place; and second, to reveal information to the public about these inventions that serves to stimulate further innovation.⁴¹ The U.S. 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.⁴²

The rights conferred by patent laws are designed to be limited in time and scope.⁴³ The reason for providing patent protection to creators is to encourage them to produce socially valuable works, thereby maximizing social welfare.⁴⁴ If patent rights are too strong, society would be hurt (and social welfare diminished).⁴⁵ For one thing, exclusive rights in IP can prevent competition in protected works, allowing the rightsholder to charge a premium for

⁴¹ Jeanne C. Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 547-54 (2009).

⁴² U.S. CONST. art. I, § 8, cl. 8.

⁴³ Lemley, *supra* note 11, at 997.

⁴⁴ Ralph S. Brown, *Eligibility for Copyright Protection*, 70 MINN. L. REV. 579, 592-96 (1985). Utilitarian thinking comes in different flavors beside 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 diffusion of 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 commercialization theory, see Mark A. Lemley, *The Myth of the Sole Inventor*, 110 MICH. L. REV. 709 (2012). Another is the signaling theory, which proposes that patents are useful signals to financiers that the patenting firm is a worthy investment. Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. PA. L. REV. 1, 37 (2005); Clarisa Long, *Patent Signals*, 69 U. CHI. L. REV. 625, 636-37, 648 (2002).

⁴⁵ Lemley, *supra* note 11, at 996-97.

access and ultimately limiting these valuable works' diffusion to society at large.⁴⁶ For another, given that knowledge is frequently cumulative, society benefits when subsequent creators are not prevented from building on previous artistic, scientific, and technological creations to generate new works.⁴⁷ 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.⁴⁸

This overarching justification for patent law accords in significant ways with patent law's audience choice of the expert. Patent law requires patentees to include in their patent "one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."⁴⁹ The scope of the patent right—and thus 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.⁵⁰ 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,⁵¹ cover a use made by the defendant.⁵²

⁴⁶ *Id.*

⁴⁷ *Id.* at 997-98.

⁴⁸ *Id.* at 999.

⁴⁹ 35 U.S.C. § 112.

⁵⁰ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005); Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts?: Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1745 (2009); Jeanne C. Fromer, *Claiming Intellectual Property*, 76 U. CHI. L. REV. 719, 726 (2009).

⁵¹ *See Markman v. Westview Instrs., Inc.*, 517 U.S. 370, 373-74, 376-91 (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).

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.”⁵³ 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 entire patent.⁵⁴ The Federal Circuit explains 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.”⁵⁵

To get at 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 order: the claim terms themselves, the rest of the patent document, the patent’s prosecution history, and only then, evidence extrinsic to the patent, such as expert and inventor testimony and technical treatises and dictionaries.⁵⁶ 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

⁵² See *Powell v. Home Depot U.S.A., Inc.*, 663 F.3d 1221, (Fed. Cir. 2011) (observing that infringement is to be decided by a jury, even while claim construction is to be determined by a judge).

⁵³ *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 (2005).

⁵⁴ *Phillips*, 415 F.3d at 1313-14.

⁵⁵ *Id.* at 1313.

⁵⁶ *Id.* at 1313-18.

pertinent field.”⁵⁷ However, it is only useful to the extent that it does not contradict evidence intrinsic to the patent itself.⁵⁸

Even though extrinsic evidence offered by experts is not prioritized in construing patent claims, the PHOSITA—the expert—is still the audience through whose eyes the intrinsic evidence is construed.⁵⁹ Just who is the PHOSITA? As per the Federal Circuit, the relevant art for the PHOSITA is typically set based on the particular problem the inventor was seeking to solve.⁶⁰ The level of ordinary skill is based on six factors: “educational level of the inventor, type of problems encountered in the art, prior art solutions, rapidity of innovation, sophistication of technology, and educational level of active workers in the field.”⁶¹ The PHOSITA is “not ... the judge, or ... a layman, or ... those skilled in remote arts, or ... [even] geniuses in the art at hand.”⁶² Nor is the PHOSITA an actual inventor.⁶³ Instead, the PHOSITA is

⁵⁷ *Id.* at 1318.

⁵⁸ *Id.* 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.* at 1318-19.

⁵⁹ 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).

⁶⁰ Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 BERKELEY TECH. L.J. 1155, 1188-89 (2002) (discussing cases). For further discussion on the PHOSITA, see, for example, John O. Tresansky, *PHOSITA—The Ubiquitous and Enigmatic Person in Patent Law*, 73 J. PAT. & TRADEMARK OFF. SOC’Y 37 (1991); Eisenberg, *supra* note 8; Cyril A. Soans, *Some Absurd Presumptions in Patent Cases*, 10 IDEA 433, 438 (1966); Joseph P. Meara, Note, *Just Who is the Person Having Ordinary Skill in the Art?: Patent Law’s Mysterious Personage*, 77 WASH. L. REV. 267 (2002).

⁶¹ *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 449-50 (Fed. Cir. 1986).

⁶² *Env’tl Designs, Ltd. V. Union Oil Co.*, 713 F.2d 693, 697 (Fed. Cir. 1983).

a “juridical doppelganger,”⁶⁴ a “hypothetical person who is presumed to be aware of all the pertinent prior art.”⁶⁵ This hypothetical PHOSITA also possesses ordinary creativity.⁶⁶

The principal way of finding patent infringement is to find that the defendant’s use falls within the literal scope of the patent claims. But it is not the only way. Infringement can also be found for uses that fall outside of the patent claims’ scope pursuant to patent law’s doctrine of equivalents. 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.”⁶⁷ Equivalence is determined flexibly 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.”⁶⁸ Therefore, infringement pursuant to the doctrine of equivalents—asking whether the defendant’s use is too similar to the plaintiff’s patent claims—is also assessed using the PHOSITA as the relevant audience.⁶⁹

⁶³ Jonathan J. Darrow, *The Neglected Dimension of Patent Law’s PHOSITA Standard*, 23 HARV. J.L. & TECH. 227, 235-36 (2009).

⁶⁴ Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 BERKELEY TECH. L.J. 1155, 1187 (2002).

⁶⁵ *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985).

⁶⁶ *KSR Int’l. Co. v. Teleflex Co.*, 550 U.S. 398, 421 (2007).

⁶⁷ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 733 (2002).

⁶⁸ *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 609 (1950).

⁶⁹ Burk & Lemley, *supra* note 64, at 1187.

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. That being said, there are some ways in which the fact-finder can employ an audience other than the expert/PHOSITA to assess infringement. For one thing, when the fact-finder is asked to determine infringement, the fact-finder must construe whether the defendant's use falls within the already construed patent claim scope. There is no rule as to whose perspective the fact-finder should use to construe what the defendant's product or process does. In that sense, the fact-finder is afforded a minor opportunity to employ another audience as part of assessing infringement.⁷⁰

⁷⁰ Cf. Lemley, *supra* note 53, 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 and leaves some construction to the jury in determining infringement. For example, in one case upheld by the Federal Circuit, 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 contention, 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 that 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 that 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 is infringing, increasingly the Federal Circuit has 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 so must be resolved by the judge rather than the jury. *Cordis Corp. v. Boston Scientific Corp.*, 658 F.3d 1347, 1356 (Fed. Cir. 2011); *O2 Micro v. Beyond Innovation Tech.*, 521 F.3d 1351 (Fed. Cir. 2008).

There are also some technological areas in which patent law does not in practice heed its general example of choosing the expert as audience. The most notable example is that of software patents. In that area, because the Federal Circuit allows software to be claimed functionally rather than based on its more detailed technical workings, infringement can be found when there is merely functional similarity between the litigants' software, even if they work in very different ways.⁷¹ The lens of functional similarity is one that a consumer or ordinary reasonable observer might use to assess similarity, but a software expert would not.⁷²

With little exception then, the expert is the audience for patent infringement.⁷³ For this audience choice to work, the fact-finder must be able to put herself in the position of that

⁷¹ See generally Mark A. Lemley, *Software Patents and the Return of Functional Claiming*, 2014 Wisc. L. REV. (forthcoming). See also Colleen V. Chien & Aarshish Karkhanis, *Functional Claiming and Software Patents* (2013) (unpublished manuscript) (providing empirical evidence of overbroad functional claiming in software), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2215867; 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).

⁷² 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").

⁷³ For some patent claims, the relevant audience for infringement is instead a legal expert. 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 the term to mean. 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. See ROBERT P. MERGES & JOHN F. DUFFY, *PATENT LAW AND POLICY* 28 (5th ed. 2011). 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. No engineer is likely to understand those differences unless they have been talking to patent lawyers. It is the patent lawyer, both as drafter of patent claims and as reader, who is the audience for these terms. See generally 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 (2008).

expert. Patent law tries to address this concern by relying on expert witnesses generally to explain the technology, all the 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.⁷⁴ It also gives the judge the role of assigning meaning to patent terms. Even though that job is really fact-finding, not legal interpretation,⁷⁵ it is arguably better suited for judges than juries because of their increased exposure to patent-infringement suits.⁷⁶

C. Copyright Law

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

Copyright law protects "original works of authorship fixed in any tangible medium of expression," including literary works, sound recordings, movies, and computer software code.⁷⁷

⁷⁴ Because patent cases are litigated well after the date of invention, see John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185 (1998) (finding the average 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. See Gregory Mandel, *Patently Non-Obvious: Empirical Demonstration That 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, factfinders may be more likely to implicitly focus on what that expert knows today, not what experts knew at the time of invention. The use of a hypothetical expert may help factfinders abstract away from hindsight bias.

⁷⁵ 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).

⁷⁶ See Fromer, *supra* note 75, at 1473-76.

⁷⁷ 17 U.S.C. §§ 101, 102(a).

To obtain copyright protection, authors need only create a qualifying work.⁷⁸ A copyright holder receives the exclusive right to reproduce the work, distribute copies of it, and prepare derivative works, among other things,⁷⁹ typically until seventy years after the author's death.⁸⁰ Copyright protection extends to the expression of particular ideas rather than to the ideas themselves.⁸¹ Yet protection actually reaches well beyond the literal work to works that are copied and substantially similar,⁸² "else a plagiarist would escape by immaterial variations."⁸³

Like patent law, utilitarianism has been the dominant justification for American copyright law.⁸⁴ According to utilitarian theory, copyright law provides the incentive of exclusive rights for a limited duration to authors to motivate them to create culturally valuable works.⁸⁵ Without this incentive, the theory goes, authors might not invest the time, energy, and money necessary to create these works because they might be copied cheaply and easily

⁷⁸ *Id.* § 102 (requiring only that a work be fixed in "any tangible medium of expression" to be copyrightable).

⁷⁹ *Id.* § 106.

⁸⁰ *Id.* § 302(a).

⁸¹ *Id.* § 102(b); *Nichols v. Universal Picture Corp.*, 45 F.2d 119, 121 (2d Cir. 1930).

⁸² *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).

⁸³ *Nichols*, 45 F.2d at 121.

⁸⁴ *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 558 (1985); 122 CONG. REC. 2834 (1976) (statement of Sen. 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).

⁸⁵ Stewart E. Sterk, *Rhetoric and Reality in Copyright Law*, 94 MICH. L. REV. 1197, 1197 (1996).

by free-riders, eliminating authors' ability to profit from their works.⁸⁶ As with patent law, the rights conferred by copyright laws are designed to be limited in time and scope, so as 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 certain socially valuable purposes.⁸⁷

Copyright infringement is found when a defendant actually copied the plaintiff's copyrighted work in a way that rises to the level of an improper misappropriation. To determine improper appropriation, we ask whether two works are substantially similar.⁸⁸ The audience used as the reference point for substantial similarity differs from circuit to circuit, as well as sometimes within a circuit, often depending on the type of copyrighted work at issue. We detail the Second, Fourth, and Ninth Circuits' different approaches. Most other circuits follow either the Second or Ninth Circuit in their approach to substantial similarity.⁸⁹

In the Second Circuit, the ordinary lay observer is generally considered to be the relevant audience, although sometimes it is a more discerning ordinary observer or an expert in

⁸⁶ Alina Ng, *The Author's Rights in Literary and Artistic Works*, 9 J. MARSHALL REV. INTELL. PROP. L. 453, 453 (2010); 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).

⁸⁷ Lemley, *supra* note 11, at 999.

⁸⁸ 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); *Laureysens v. Idea Group, Inc.*, 964 F.2d 131, 140 (2d Cir. 1992). Independent creation by the defendant is therefore a complete defense to copyright infringement. *Procter & Gamble Co. v. Colgate-Palmolive Co.*, 199 F.3d 74, 77 (2d Cir. 1999). 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.

⁸⁹ See generally ROBERT C. OSTERBERG & ERIC C. OSTERBERG, *SUBSTANTIAL SIMILARITY IN COPYRIGHT LAW* (2011); Mark A. Lemley, *Our Bizarre System for Proving Copyright Infringement*, 57 J. COPYRIGHT SOC'Y 719 (2010).

the relevant subject matter. In the foundational case of *Arnstein v. Porter*,⁹⁰ the singer Cole Porter was sued for copyright infringement of the plaintiff's musical compositions.⁹¹ The court held that as to whether there was improper appropriation of a plaintiff's work, "the test is the response of the ordinary lay hearer; accordingly, on that issue, 'dissection' and expert testimony are irrelevant."⁹² 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.⁹³

The court labeled this question one of fact for the jury, noting the jury's "peculiar fit[ness]" to determine this question.⁹⁴ Without expressly stating 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.⁹⁵ The court also intimated that a judge would be unlikely to be a consumer of popular music and that

⁹⁰ 154 F.2d 464 (2d Cir. 1946).

⁹¹ *Id.* at 467.

⁹² *Id.* 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.*

⁹³ *Id.* at 473.

⁹⁴ *Id.*

⁹⁵ *Id.* at 473 & n.22.

a judge trying such a case ought to employ an advisory jury.⁹⁶ This reasoning seems to suggest that typical consumers of the work ought to be the audience (even though the Second Circuit cases applying *Arnstein* consistently specify a different audience construct, the ordinary observer⁹⁷).

According to *Arnstein*, expert testimony would be permissible for the jury on this question, but only to help the jury determine the reaction of ordinary lay hearers.⁹⁸ Here, the court recognizes the translation problem for fact-finders; even juror-consumers may need expert testimony that focuses on how consumer attitudes as a group may differ from the attitudes of individual jurors. Otherwise, the Second Circuit—with more than a whiff of elitism—thought that expert views would here 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.”⁹⁹

⁹⁶ *Id.* at 473.

⁹⁷ *See, e.g.,* *Boisson v. Banian, Ltd.*, 273 F.3d 262, 272 (2d Cir. 2001).

⁹⁸ *Id.*

⁹⁹ *Id.* One of the authors has argued that this approach is exactly backwards, focusing on the role of experts to decide things ordinary observers could determine and eschewing those experts where they are most needed, in deciding what is protectable about the work. *See* Lemley, *supra* note 89.

In a dissent, Judge Clark stated that the majority's test for substantial similarity was too cramped and he would have allowed for dissection and expert testimony.¹⁰⁰ 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."¹⁰¹ Moreover, he expressed skepticism at the lay jury's ability to ascertain misappropriations: "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."¹⁰²

Since *Arnstein*, the Second Circuit has generalized the relevant copyright infringement audience to be the reasonable ordinary lay observer,¹⁰³ describing the test for similarity as

¹⁰⁰ *Arnstein*, 150 F.2d at 476-77 (Clark, J., dissenting).

¹⁰¹ *Id.* at 476.

¹⁰² *Id.* at 479. It seems clear that plaintiff Ira Arnstein himself was engaged in such trickery; his theory of how Porter got hold of his obscure songs was laughable, and the dissent made its case by citing almost exclusively other Second Circuit cases brought by Arnstein himself, suggesting that he was a frequent filer rather than someone with a real claim. See generally GARY A. ROSEN, UNFAIR TO GENIUS: THE STRANGE AND LITIGIOUS CAREER OF IRA B. ARNSTEIN (2012).

¹⁰³ *E.g.*, *Computer Assocs. Int'l, Inc. v. Altai*, 982 F.2d 693, 713 (2d Cir. 1992); *Walker v. Time Life Films, Inc.*, 784 F.2d 44, 50 (2d Cir. 1986).

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.”¹⁰⁴

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 employ the audience of the ordinary lay observer. Instead, the software expert is deemed to be the proper audience.¹⁰⁵ 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.”¹⁰⁶

The Ninth Circuit uses 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, and only if both show similarity is there infringement.¹⁰⁷ The extrinsic test makes an objective comparison between the two works at issue with regard to their expressive elements, such as “articulable similarities between the

¹⁰⁴ *Boisson v. Banian*, 273 F.3d 262, 272 (2d Cir. 2001). Despite disallowing dissection of works in assessing 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. *Id.* (internal quotation marks omitted). 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.* (internal quotation marks omitted). But the audience is still an ordinary observer, not an expert.

¹⁰⁵ *Altai*, 982 F.2d at 713-14.

¹⁰⁶ *Id.* at 713.

¹⁰⁷ *Sid & Marty Krofft Television Prods., Inc. v. McDonald’s Corp.*, 562 F.2d 1157, 1162-65 (9th Cir. 1977).

plot, themes, dialogue, mood, setting, pace, characters, and sequence of events.”¹⁰⁸ This comparison allows dissection of the works and often involves expert testimony as to an expert’s point of view,¹⁰⁹ 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 substantially similar in the total concept and feel of the works.”¹¹⁰ This test uses the ordinary reasonable observer as the audience, and accordingly, does not allow for expert testimony.¹¹¹ The Ninth Circuit uses the extrinsic test with analytic dissection to determine the fact of copying, and the holistic intrinsic test in an effort to determine whether that copying was in fact lawful.¹¹²

Although the intrinsic test is usually judged from the perspective of the ordinary observer, the Ninth Circuit sometimes uses the consumer as its audience instead.¹¹³ For example, in discussing the intrinsic test, instead of employing an ordinary reasonable observer,

¹⁰⁸ *Cavalier v. Random House, Inc.*, 297 F.3d 815, 822 (9th Cir. 2002).

¹⁰⁹ *Three Boys Music Corp. v. Bolton*, 212 F.3d 477, 485 (9th Cir. 2000).

¹¹⁰ *Cavalier*, 297 F.3d at 822 (internal quotation marks omitted).

¹¹¹ *Three Boys Music*, 212 F.3d at 485.

¹¹² See Lemley, *supra* note 89 (arguing that this is backwards).

¹¹³ One complication is that the plaintiff’s and defendant’s works might be directed at different markets. The audience for Roy Orbison’s song “Pretty Woman,” for instance, may overlap only slightly with the audience for 2 Live Crew’s rap song of the same name. See *Campbell v. Acuff-Rose Music*, 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.

the Ninth Circuit considered video games to require an audience of an “extraordinary observer”: “a discerning 17.5 year-old boy.”¹¹⁴

As the Ninth Circuit has done with video games, the Fourth Circuit adopts the consumer as audience across its range of copyright infringement cases. The Fourth Circuit discusses the issue at length in *Dawson v. Hinshaw Music Inc.*,¹¹⁵ 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.¹¹⁶

The *Dawson* court opined that the Second Circuit has misread *Arnstein* always to require an ordinary observer as audience when *Arnstein* intended that the consumer—sometimes an ordinary observer, sometimes not—be 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

¹¹⁴ *Data East USA, Inc. v. Epyx, Inc.*, 862 F.2d 204, 209-10 & n.6 (9th Cir. 1988).

¹¹⁵ 905 F.2d 731 (4th Cir. 1990).

¹¹⁶ *Id.* at 732-36 (remanding the issue of whether a spiritual song should be judged by a lay observer or under a specialized observer test); *accord* *Lyons Partnership, L.P. v. Morris Costumes, Inc.*, 243 F.3d 789, 801 (4th Cir. 2001).

ultimate comparison of the works at issue be oriented towards the works' intended audience."¹¹⁷

Copyright law's use of varied infringement audiences—sometimes depending on the circuit—is confused and circuit-dependent. As a general matter, however, copyright uses a hybrid test, drawing both on the perspective of the expert and of some non-expert observer (either the consumer or the ordinary person).

D. Design Patent Law

As Jason du Mont and Mark Janis observe, design patents occupy an awkward position in the IP pantheon.¹¹⁸ 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, and nonobvious, and infringement proceeds by comparing the claims of the design patent to the accused device.¹¹⁹ But the history and motivation for design patents owe as much to trademark and unfair competition rationales as to the encouragement of the creation of new designs as an end in itself.¹²⁰ And to the extent that encouraging new designs is a purpose behind design patent law, copyright, not utility patents, seems a more apt

¹¹⁷ *Dawson*, 905 F.2d at 734. Similarly, the D.C. Circuit has questioned, though not resolved, whether different—expert—observers should be the audience for copyright infringement of architectural works. See *Sturdza v. United Arab Emirates*, 281 F.3d 1287, 1300-01 (D.C. Cir. 2002).

¹¹⁸ Jason J. Du Mont & Mark D. Janis, *The Origins of American Design Protection*, 88 IND. L.J. (forthcoming 2013), available at http://papers.ssrn.com/papers.cfm?abstract_id=1862182.

¹¹⁹ 35 U.S.C. § 171.

¹²⁰ Du Mont & Janis, *supra* note 118.

parallel.¹²¹ So design patents are in some sense an amalgam of utility patents, copyrights, and trademarks.

That doctrinal confusion reflects itself in selecting the audience for design patents. As we have seen, patent and trademark are virtual antipodes when it comes to the audience for infringement. Patent law focuses on a hypothetical audience of experts, while trademark law, by contrast, seems to care both about the reaction of actual consumers and the beliefs of the defendant.

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 ordinary observer, giving such attention as a purchaser usually gives.”¹²² This test evokes an actual audience composed of reasonable purchasers, just as trademark does. But the question the audience is asked is different. 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,”¹²³ the Federal Circuit has held that it is the similarity between the claimed design and the defendant’s product, not the likelihood of confusion, that determines infringement.¹²⁴ The result is a hybrid: the consumer audience from trademark law, asked to make the rather more abstract assessment of technical similarity from patent or copyright law.

¹²¹ See *supra* section C.

¹²² *Gorham Mfg. v. White*, 81 U.S. (14 Wall.) 511, 528 (1872); *Oakley, Inc. v. Int’l Tropic-Cal, Inc.*, 923 F.2d 167, 169 (Fed. Cir. 1991).

¹²³ *Gorham*, 81 U.S. at 528.

¹²⁴ *Unette Corp. v. Unit Pack Co.*, 785 F.2d 1026, 1029 (Fed. Cir. 1986).

Traditionally, the fact-finder was required to channel the audience in one important respect: While the audience was composed of the ordinary observer, that observer was credited with knowledge of the prior art, so that only similarities that actually were original to the design patentee could form the basis for a finding of infringement.¹²⁵ But in *Egyptian Goddess, Inc. v. Swisa, Inc.*, the court abolished this longstanding point-of-novelty test for design patents, which had required proof that the defendant copied a novel aspect of the plaintiff's design.¹²⁶ 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.¹²⁷ In so doing, it moved from an audience that was more patent-like to one that is closer to trademark or perhaps copyright law.

This Part has described the different audiences that the major IP regimes use, with the primary audience for infringement in trademark being the consumer, in patent being the expert, in copyright being some combination of the consumer, expert, and ordinary reasonable observer, and in design patent being a similar combination. Understanding these differences descriptively is itself valuable, because the different audiences lead each of the IP regimes to

¹²⁵ *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665 (Fed. Cir. 2008) (en banc) (describing the history).

¹²⁶ *See id.* at 678.

¹²⁷ *Id.* at 670, 678. For criticism of that decision, see Mark A. Lemley, *Point of Novelty*, 105 NW. U. L. REV. 1253 (2011).

different tests for infringement. By focusing on the audience, we offer a lens by 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 there are other variations, there are—as the previous Part demonstrates—three principal possibilities in choosing the audience in IP infringement. First, the audience might be a consumer of the item protected by the relevant IP right, such as a pharmaceutical drug, classical music, or soft drinks. Second, the audience chosen 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 as tort law asks the “reasonable person” whether conduct was negligent.¹²⁸ In this Part, we explore how the choice of audience influences the definition of infringement in each regime.

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, although a chemist would think they are different due to the dissimilar formulations. Consumers might think that two cola drinks are dissimilar

¹²⁸ See *United States v. Carroll Towing Co.*, 159 F.2d 169 (2d Cir. 1947).

despite very similar recipes because of the branding, while beverage experts focused on the ingredients might disagree.¹²⁹ Classical-music consumers might think two compositions sound relatively similar, while an ordinary reasonable observer might more readily find similarity and a classical-music expert much less similarity. The choice of audience thus can be outcome-determinative.

Why do IP regimes choose one audience group as a reference point over another in assessing infringement? And why do they differ? In this Part, we analyze the three major infringement audiences in IP in turn, evaluating the advantages and disadvantages of each audience as a reference point. We discuss too the relationship between these three audiences. We also overlay on this analysis a discussion of the second-order question of how the jury (or judge) as fact-finder might fare when asked to measure infringement using a particular audience as reference point.

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 (such as a recorded song in copyright law, a pharmaceutical in patent law, or a soft drink in trademark law). 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

¹²⁹ 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 (2012).

monopoly.¹³⁰ The question is not whether conduct would be considered bad by a person, or is outside the range of acceptable corporate conduct. Rather, the question is whether the conduct will in fact have negative effects in the marketplace.¹³¹ Therefore, the actual market is the audience against which we measure an antitrust violation.¹³²

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.¹³³ Consumers will find that particular works are substitutes if they would tend to buy either one interchangeably.¹³⁴ Oftentimes, consumers will find two works to be substitutes if they function in much the same way.¹³⁵ For example, they will likely find two pharmaceuticals similar enough if they achieve the same effect with similar side effects. They will find two songs

¹³⁰ III PHILIP AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 606a (2d ed. 2001).

¹³¹ IIB AREEDA & HOVENKAMP, *supra* note 130, at ¶782b.

¹³² *See Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 466-67 (1992).

¹³³ It should not be presumed that the very fact of litigation indicates that the plaintiff is being harmed in the marketplace by a substitute. That might be true in some cases, but it also might be that the plaintiff wants to claim rights beyond the plaintiff's marketplace in a separate space in which the defendant is operating.

¹³⁴ 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 are 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 129.

¹³⁵ *E.g.*, *supra* text accompanying note 72 and accompanying note (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).

similar enough if they sound similar and would enjoy each one similarly. They may find two tablet designs similar enough if they look the same. They will find two soft-drink marks similar if they resemble each other enough that they might purchase the respective associated product or service 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 similar chemically, but they might be different and still serve the same function. 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.¹³⁶

Because consumers as a class tend to focus on whether the uses for two products are interchangeable, the consumer is 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 to be infringing and will thus be discouraged from being produced by third parties without permission from the rightsholder. 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 that IP right.

¹³⁶ See Lemley & McKenna, *supra* note 129.

Interestingly enough, that means that when the consumer is the audience in IP infringement and substitution is the test for similarity, consumers are ultimately permitted the fewest market choices for a particular type of work. That is, because market substitutes are more likely to be deemed to be 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 least protective of consumers themselves. The consumer is not an ideal audience choice in IP infringement when the IP law at issue has as its goal protection only against copying of the protected thing, not 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 one that accomplishes similar results because the new formulation might be helpful to a sub-population that does not respond to the pre-existing formulations.¹³⁷ Even if not, the new formulation might generate further scientific research and helpful results in other ways in

¹³⁷ Anne Stein, *Pain Relievers: What Are the Differences?*, CHI. TRIB. (Jan. 13, 2011) (noting, for example, that ibuprofen is dangerous for people who take oral steroids or blood thinners, while that warning is absent for acetaminophen), at http://articles.chicagotribune.com/2011-01-13/news/sc-health-0112-pain-reliever-differen20110113_1_alcohol-warning-chronic-pain-tylenol.

the future, in the area of pain relief or elsewhere.¹³⁸ Or it may work by a completely different mechanism even though that mechanism is not transparent to the end user.¹³⁹ A consumer assessing IP infringement of a pre-existing formulation by this new one will often be inclined to find sufficient similarity and thus infringement. That would discourage the creation of this new formulation, to society's detriment. More generally, the consumer's inattention to differences beyond market substitutive elements could thus be harmful to society.

A related issue is that consumers are not monolithic. Some people insist on 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, and how we are to account for the views of the remainder. A plausible measure is whether a majority of the defined audience would find infringement. The majority requirement aligns with the "preponderance of the evidence" standard plaintiffs must meet on the issue of infringement.¹⁴⁰ If the audience is a hypothetical consumer, the alignment is perfect: the plaintiff must show that it is more likely than not that this hypothetical consumer would believe the defendant infringed. But even if the consumer invoked as infringement audience is a real one, a

¹³⁸ On the disclosure value of IP rights and the potential benefit for research, see, for example, Fromer, *supra* note 52; Lisa Larrimore Ouellette, *Do Patents Disclose Useful Information?*, 25 HARV. J. L. & TECH. 531 (2012). For a more skeptical view, see Lemley, *supra* note 52.

¹³⁹ Fromer, *supra* note 52, at 547-54.

¹⁴⁰ *E.g.*, *Gross v. FBL Fin. Servs., Inc.*, 557 U.S. 167, 189 (2009).

reasonable translation of the preponderance of the evidence standard might be that more people in the audience would find infringement than would not.¹⁴¹

Thus far it might seem that consumers are likely to find similarity, or substitution, and thus infringement (and broader IP rights), on the basis that 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, given their reason for interest in the products in the first instance. Sometimes two things that are technically the same from an expert's point of view serve completely different purposes to the consumer, making consumers more likely to react to those differences and find non-infringement 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.¹⁴² 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.

¹⁴¹ 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* text accompanying note 36. The theory is that even 10% confusion can disrupt the market with inefficient deception and produce a substantial windfall to 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 confidence that a substantial majority of audience members think there is infringement.

¹⁴² *Cf. Perfect 10 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.”).

When the consumer is the audience in IP infringement, there is a second-order question of how to ascertain what the consumer thinks. There are generally two different ways. First, the court can be presented with surveys of consumers or expert testimony of what consumers think.¹⁴³ Then, the fact-finder can rely on that evidence to assess whether consumers would find that the works being litigated are too similar. The fact-finder in this case is a neutral arbiter, taking evidence on what actual consumers believe. Alternatively, consumers themselves can be treated as fact-finders to judge whether the litigated works are too similar based on their own views in conjunction with the presented evidence.¹⁴⁴ The fact-finder might then be asked their own opinion on whether consumers would find the plaintiff's and defendant's works to be substitutive. In this scheme, the jurors constitute a set of putative consumers acting on their own beliefs as a proxy for what other consumers likely believe.¹⁴⁵

There are upsides and downsides to each way of ascertaining consumer views on similarity. This second option can work under our legal system when the fact-finder (jury or judge) is in fact a consumer of the products at issue. Even then there are concerns. Juries often must be unanimous, and we might worry about market substitutions for some consumer jurors but not

¹⁴³ *E.g.*, *Christian Louboutin S.A. v. Yves Saint Laurent Am. Holding, Inc.*, 696 F.3d 206, 227 (2d Cir. 2012).

¹⁴⁴ *Cf.* *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 and that "tone-deaf persons" ought to be excluded from the jury).

¹⁴⁵ Scholars recognize that so long as juries are generally representative of the public at large, they are useful as proxies for that public. Laura I. Appleman, *The Lost Meaning of the Jury Trial Right*, 84 *IND. L.J.* 397, 402-03 (2009); Heather K. Gerken, *Second-Order Diversity*, 118 *HARV. L. REV.* 1099, 1108-09 (2005); Deborah Zalesne & Kinney Zalesne, *Saving the Peremptory Challenge*, 70 *DENV. U. L. REV.* 313, 326 (1993).

others. When the threshold for substitution is low (such as 10% of consumers overall¹⁴⁶), 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 the jury to model the consumer audience, because they are being asked to take a position that is different from that the jury itself might reach by consensus.

Moreover, consumer fact-finders sitting through a trial might have some difficulties placing themselves in the mindset of consumers in the actual marketplace. Instead of perusing the store aisles in a hurry or even having done some online research for a variety of products to ascertain how to compare the litigated products to one another, the consumer fact-finder sat in a courtroom and likely focused 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.¹⁴⁷

For products not directed at lay fact-finders, the problem is worse. Jurors aren't the consumers of, say, enterprise software; if a jury is to assess how the actual business consumers

¹⁴⁶ See *supra* text accompanying note 36 and note 141 (discussing this rule in trademark law).

¹⁴⁷ Cf., e.g., *THOIP (A Chorion Ltd. Co.) v. Walt Disney Co.*, 690 F. Supp. 2d 218 (S.D.N.Y. 2010) (holding that "[t]he 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 (2002) (finding in a study that consumers' aesthetic "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").

would view the products, courts must provide them with sufficient evidence to assess whether the actual consumer would find the litigated works to be too similar. Though we might rely on survey evidence and expert testimony, there are well-known concerns with the accuracy of and litigants' manipulation of these forms of evidence to suit their desired outcome on similarity.¹⁴⁸

In short, there are two important questions with regard to the consumer as audience in IP infringement cases. There is the first-order question whether the consumer's perspective is the one we want. If so, there is the second-order question of how to ascertain what the consumer thinks. In this section, we have suggested that the consumer perspective is likely to focus on market substitution more than the technical similarity of the works in question. We have also outlined some worries about choosing the consumer, who might overlook some distinctions that society deems valuable, thereby discouraging the creation of valuable works.

B. Expert

A second possible audience that can be used to adjudge infringement is the expert in the subject matter at issue in the suit, be it software engineers with software patents or copyrights, musicologists or classical musicians for a classical-music composition copyright, or a

¹⁴⁸ See, e.g., Daniel A. Klein, *Admissibility and Weight of Consumer Survey in Litigation Under Trademark Opposition, Trademark Infringement, and False Designation of Origin Provisions of Lanham Act* (15 U.S.C.A. §§ 1063, 1114, and 1125), 98 A.L.R. FED. 20 (2005); Michael Rappeport, *Litigation Surveys—Social “Science” as Evidence*, 92 TRADEMARK REP. 957, 985 (2002). But see Irina D. Manta, *Reasonable Copyright*, 53 B.C. L. REV. 1303 (2012) (arguing that copyright law ought to use surveys much like trademark infringement cases do to assess substantial similarity).

soft-drink expert or a branding expert for a cola trademark.¹⁴⁹ As we discuss herein, the expert is a sensible audience in IP infringement if the relevant form of IP is concerned with ensuring that only works that are sufficiently similar to the expert's eye are prohibited.

An expert would tend 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.¹⁵⁰ For example, to an expert two works might be sufficiently dissimilar because 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, discouraging works that make no technically distinguishable contributions to the field). For instance, consider 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 can separately be further researched and built upon.¹⁵¹ Consumers, by contrast, cannot be counted upon to distinguish the technical or specialized contributions

¹⁴⁹ 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 113 (discussing this issue in the context of copyright's infringement test).

¹⁵⁰ Psychologists and sociologists studying creativity generally understand creativity 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) (citing, *inter alia*, MIHALY CSIKSZENTMIHALYI, CREATIVITY: FLOW AND THE PSYCHOLOGY OF DISCOVERY AND INVENTION 25, 28-29 (1996); 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).

¹⁵¹ See *supra* text accompanying notes 137-139.

that the newer formulation makes from the pre-existing formulations in the marketplace. As another example, pop music has significant genre constraints, such as its limited use of particular chord progressions.¹⁵² Blues music has basic tonal progressions.¹⁵³ Consumers of these forms of music might find two different songs to be overly similar precisely because of the relevant genre's constraints.¹⁵⁴ However, experts might not, because they are more likely to ignore similarities that result from these known constraints in adjudging similarity. To the expert, those similarities aren't the result of using 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, the use of expert as audience can be highly protective of the consumer. If IP law permits variations to the expert that do not register as variations to the consumer, some number of market substitutes would be considered non-infringing. As such, they are more likely to be produced and will offer consumers a wider range of products and 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.¹⁵⁵

¹⁵² 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 (2008); Axis of Awesome – 4 Four Chord Song (with Song Titles), <http://www.youtube.com/watch?v=5pidokakU4I> (last visited Feb. 26, 2013) (demonstrating how many popular songs share the same four chords).

¹⁵³ 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).

¹⁵⁴ See, e.g., Lund, *supra* note 5, at 152-73.

¹⁵⁵ See Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 609, 615 (Nat'l Bureau of Econ. Research,

Just as consumer decision-makers don't always vote for IP owners,¹⁵⁶ 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 to an expert. For example, software programs, such as word processors or web browsers, might have different interfaces, persuading consumers that they are sufficiently different, both driven by source code that experts would find too similar. 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 the similarity.¹⁵⁷ 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 that appear to the consumer don't say anything about the trademark in question.¹⁵⁸

If consumers focus on market substitution and not as much on 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

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).

¹⁵⁶ See *supra* text accompanying note 142.

¹⁵⁷ Lund, *supra* note 5, at 152-73.

¹⁵⁸ Cf. *Rescuecom Corp. v. Google Inc.*, 562 F.3d 123, 127-31 (2d Cir. 2009) (holding that this practice by a search engine is a use in commerce for purposes of trademark law).

we want IP rights to cover only uses that cause market harm, consumers are more likely than experts to reach that result. And just as with consumers, there is the worry that the relevant group of experts is not monolithic and might in fact hold diverse views on similarity.

The second-order question of how the fact-finder would ascertain expert views also presents problems. 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. Lay fact-finders will need evidence on what experts think to render a decision on infringement. If that evidence comes in the form of expert testimony, the law is faced with the usual concerns about evidence reliability, a battle of the experts, and the ability of laypeople to process this evidence.¹⁵⁹ That evidence might also come in the form of expert resources, such as textbooks dating back to the time of IP creation, which avoids some problems with expert testimony's reliability but does not alleviate many of the other concerns. As we have seen, patent law has a number of legal devices designed to limit the power afforded expert testimony.¹⁶⁰

Moreover, lay fact-finders might have a hard time putting themselves in the expert's shoes because of the general human difficulty in modeling people dissimilar from themselves.

¹⁵⁹ See generally Scott Brewer, *Scientific Expert Testimony and Intellectual Due Process*, 107 YALE L.J. 1535 (1998); *Vitronics Corp. v. Conceptor, Inc.*, 90 F.3d 1576 (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, see *supra* section I.B, helps reduce the significance of the battle of expert witnesses. Rather than finding a particular person and asking them what they think, patent law tries to create a hypothetical person who can channel all the evidence.

¹⁶⁰ See *supra* note 74.

Cognitive science studies demonstrate that people generally tend to use themselves to simulate the mental states of others, particularly when the one they are modeling is similar to them; when the other is dissimilar, people often adjust their mental model by making some changes to their own.¹⁶¹ And when people appreciate the great distance mentally between themselves and another, they might resort to stereotyping to model the other.¹⁶² These studies cast some doubt on how well lay fact-finders can model experts as the audience in IP infringement, because of the great distance between them.¹⁶³

These problems might be alleviated somewhat by having judges rather than juries serve as fact-finder when the audience is the expert. Judges are not immune from cognitive biases.¹⁶⁴ But because judges see more cases than juries over a range of time in which they have to model the expert, they might develop better models of the expert to use as a reference point to make

¹⁶¹ Daniel R. Ames, *Inside the Mind Reader's Toolkit: Projection and Stereotyping in Mental State Inference*, 87 J. PERSONALITY & SOCIAL PSYCHOL. 340, 340 (2004); Nicholas Epley, Boaz Keysar, Leaf Van Boven & Thomas Gilovich, *Perspective Taking as Egocentric Anchoring and Adjustment*, 87 J. PERSONALITY & SOCIAL 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).

¹⁶² Epley, Keysar, Van Boven & Gilovich, *supra* note 161, at 328.

¹⁶³ 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.").

¹⁶⁴ See Chris Guthrie, Jeffrey J. Rachlinski & Andrew J. Wistrich, *Inside the Judicial Mind*, 86 CORNELL L. REV. 777 (2001).

infringement determinations.¹⁶⁵ At the least, they will see more experts and be better able to evaluate a particular expert compared 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 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 possibility in choosing the 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.”¹⁶⁶ This reasonable person is not the median actual person, or even the average of real people. This person is a hypothetical construct, imbued with characteristics that don’t necessarily map to any real

¹⁶⁵ Cf. HARRY KALVEN, JR. & HANS ZEISEL, *THE AMERICAN JURY* 56-65 (1966) (explaining why judges want to convict when juries want to acquit in criminal trials 16.9% of the time but judges want to acquit when juries want to convict in these trials only 2.2% of the time, partially based on the judges’ repeated exposure to certain storylines for defendants).

¹⁶⁶ W. PAGE KEETON, *PROSSER AND KEETON ON TORTS* 173-192 (5th ed. 1984).

person.¹⁶⁷ 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 views of the actual consumer in the interest of serving legal goals. In torts, for instance, a person is considered to have acted unreasonably “if he or she takes less than the socially optimal level of care.”¹⁶⁸ 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.”¹⁶⁹ A real person may have no idea what the optimal level of care is, but the choice of the hypothetical reasonable observer gives courts the freedom to imbue the audience with some of the characteristics of a legal expert.

Similarly, one might see a choice of the ordinary reasonable observer for the audience in IP infringement as an attempt to get potential infringers to prevent copying in instances where reasonable people would detect these differences and the law would care about them. 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.¹⁷⁰ But it may give room for the law to establish certain norms of permissible conduct, allowing courts to

¹⁶⁷ See generally Alan D. Miller & Ronen Perry, *The Reasonable Person*, 87 N.Y.U. L. REV. 323 (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.

¹⁶⁸ Miller & Perry, *supra* note 167, at 328.

¹⁶⁹ *Id.*

¹⁷⁰ See *id.* at 336-40.

define some beliefs as unreasonable no matter how widely held. For this reason the ordinary observer might be modeled by either a judge or a jury.

Perhaps most importantly, compared to actual consumers and experts, the hypothetical observer is least likely to notice differences between litigated works. Unlike the expert, this observer probably knows little about the genre of any particular litigated works, which minimizes the chance she will be attentive to similarity based on characteristics that matter in that genre. And unlike 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 function in mind. Cast in this light, the reasonable ordinary observer is worthy as an audience choice only when the relevant form of IP law wants to find infringement more readily without any attention to genre or marketplace substitutions; that is, if it wants to deter works that are less similar than an expert or consumer would find.¹⁷¹

There are a number of different target audiences that the fact-finder can be asked to model, most notably the consumer, the expert, and the ordinary reasonable observer. Atop each target audience are the questions whether the fact-finder is a judge or a jury and how this fact-finder ought to ascertain what the target audience thinks. As this Part has demonstrated,

¹⁷¹ It is not logically necessary that an ordinary reasonable observer notice fewer differences than the other audiences. One might imagine that the ordinary reasonable observer knows the standard of care in the field and would observe just as much difference, if not more, than the other audiences. That said, courts seem to understand the ordinary reasonable observer in IP infringement cases to be unobservant of differences. *See supra* section I.C.

different audience settings with regard to these variables can readily yield varying determinations on infringement. This choice therefore ought to be made carefully with regard to each form of IP law's desired goals. Understanding this fact helps explain many of the differences in IP infringement doctrine, and even such questions as why we give certain matters to judges rather than juries.

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 we want to define as infringement. With a background on the audience choices that the various IP regimes in fact do make and an analysis of why the choice matters, we now turn to an analysis of which audience the various IP regimes ought to employ in infringement cases.

Is there 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 chosen its audience for IP infringement with care to match its particular goals.

In this Part, we suggest that this intuition is, if not wrong, incomplete. Despite different particulars, the various IP regimes share at least one common goal: encouraging creation by giving a limited measure of market control. We think that goal is best served when IP

infringement of all types requires proof of similarity from the points of view of both the expert and the consumer. We consider in turn why each point of view is critical. We then apply these insights to the various IP regimes.

Related to the question of the particular audience is the question of what exactly we want the audience to decide based on its observations. Should the audience simply relate its factual belief as to similarity, which the fact-finder would then use to inform its normative determination as to infringement? Or should the audience directly convey also some normative determination whether the similarity is sufficiently wrong to rise to the level of infringement? We refer to the ultimate decision-maker in a trial as the “fact-finder,” suggesting that their job in channeling the audience is to determine 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 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.¹⁷² The jury is channeling an audience (there, the hypothetical reasonable person), but what they hope to learn through the lens of the reasonable person is not merely a fact but a normative moral judgment.

¹⁷² DAN B. DOBBS, *THE LAW OF TORTS* § 148, at 355 (2000); Francis H. Bohlen, *Mixed Questions of Law and Fact*, 72 U. PA. L. REV. 111, 113 (1924).

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 that that copying rose to the level of “improper appropriation.”¹⁷³ 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 building it into a multi-factor test. 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 also was wrong enough invention to warrant liability. However, the normative judgment in patent law is folded into the claim construction process, which defines the scope of the invention for ascertaining infringement. In each case, then, determining infringement is at least in part a normative as well as a pure 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 pre-existing contribution.

Take patent law. For society’s benefit, patent law seeks to encourage the development of a wide multitude of useful scientific and engineering inventions, including those that accomplish similar or identical functions in different ways.¹⁷⁴ Measuring similarity from the vantage point of the expert, rather than the consumer, ensures that patent infringement is

¹⁷³ On *Davis v. Gap, Inc.*, 246 F.3d 152, 173 (2d Cir. 2001).

¹⁷⁴ See *supra* section I.B.

found only when the defendant's product embodies a too-similar inventive principle as the plaintiff's invention. If the defendant's product, by contrast, constitutes a material contribution to the field, approaching the same end in a different way, its creation will not be deterred through an infringement finding.¹⁷⁵

The expert as audience thus aligns with encouragement of valuable contributions to science and technology.¹⁷⁶ It does so by rewarding the patentee of a particular invention that has made a contribution to its field by making the use of that invention off limits for others without the patentee's permission.¹⁷⁷

At the same time, patent law's focus on technical similarity is a limitation on the scope of the patent. Subsequent inventors can, without running afoul of patent law, develop a variety of items that consumers view as substitutes for the patented invention that are not technically similar. The fact 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.¹⁷⁸

¹⁷⁵ 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 71.

¹⁷⁶ See Lemley, *supra* note 11, at 992-94.

¹⁷⁷ *Id.*

¹⁷⁸ See *TiVo Inc. v. EchoStar Corp.*, 646 F.3d 869, 883 (Fed. Cir. 2011) (en banc) (emphasizing patent "policy 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* SUBCOMM. ON PATENTS, TRADEMARKS, &

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 their distinct fastening mechanisms.¹⁷⁹ Engineers would consider Velcro to be 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 with a zipper.¹⁸⁰ Moreover, Velcro's invention ultimately led engineers to different sorts of follow-on innovation than the zipper. Velcro's shortcomings in certain contexts—such as the noise in opening pockets on a soldier's uniform in contexts in which the soldier needs to stay quiet—led to valuable innovation—such as the military's invention of a noiseless Velcro.¹⁸¹ Furthermore, just as Velcro's inventor modeled that invention on the burrs

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.").

¹⁷⁹ ALLYN FREEMAN & BOB GOLDEN, WHY DIDN'T I THINK OF THAT: BIZARRE ORIGINS OF INGENIOUS INVENTIONS WE COULDN'T LIVE WITHOUT 99-104 (2007).

¹⁸⁰ AMERICAN PHYSICAL SOCIETY, THIS MONTH IN PHYSICS HISTORY (Feb. 2004), <http://www.aps.org/publications/apsnews/200402/history.cfm>.

¹⁸¹ JOSEPH A. SCHWARCZ, DR. JOE & WHAT YOU DIDN'T KNOW: 39 FASCINATING QUESTIONS ABOUT THE CHEMISTRY OF EVERYDAY LIFE 178 (2003).

of the burdock plant, Velcro's creation has helped spur more broadly the field of biomimicry, which uses natural principles as inspiration to solve other challenges.¹⁸²

Society ought to care that Velcro is introduced to society in addition to the zipper, even if the typical consumer will not distinguish between the two for a particular use like fastening a shoe. Conversely, uses of pre-existing scientific or technological contributions that make no further contribution to the relevant field—things an expert would judge to work in the same basic way—are uses we might not worry about deterring, and in fact might want to deter.

At the same time, an expert's focus on technical similarity will mean that an expert is inclined to look past the actual use of the technology to the underlying way the technology works. To an expert, Velcro used in fastening shoes and Velcro used in holding hearts 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.¹⁸³ On the other hand, experts would likely find appropriation artwork by Jeff Koons or Shepherd Fairey to make material artistic contributions, even though they are clearly imitations of prior works by others, because

¹⁸² See generally JANINE M. BENYUS, *BIOMIMICRY: INNOVATION INSPIRED BY NATURE* (1997).

¹⁸³ See, e.g., Leo Segedin, *Copies and Forgeries: What Difference Does It Make?* (2005), http://www.leopoldsegedin.com/essay_detail_copies.cfm.

they see a significant artistic effort in the imitation.¹⁸⁴ Music experts may find similarities in musical values and chord progressions that a lay audience would more readily overlook because of differences in the lyrics or the basic melody.¹⁸⁵ But they may also see that similarities that catch the attention of lay audiences are in fact driven by standard elements like chord progressions that the copyright owner didn't invent.¹⁸⁶ Experts on the sorts of works that are copyrightable, then, are likely to focus more on the technical work the copyright owner and the defendant did, 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 of the patentee's design. They are less likely than consumers to be swayed by similarities driven by standard design principles or ones 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 generating progress in knowledge and culture, the underlying goal of copyright and design patent law.¹⁸⁷ 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

¹⁸⁴ See, e.g., Angelina Krahn, *In Defense of Banality*, MILWAUKEE EXPRESS (Aug. 30, 2008) (praising Jeff Koons's work that appropriates pre-existing work).

¹⁸⁵ See *supra* text accompanying note 157.

¹⁸⁶ See *supra* text accompanying notes 152-90.

¹⁸⁷ See *supra* sections I.C-D.

art expert's point of view. Reliance 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 plaintiff's.

The role of the expert in trademark law is less obvious. Marks aren't "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 there is still a role for expertise 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 don't want to give trademark protection over those elements, because doing so would interfere with the competitive market that trademark law is ultimately supposed to promote.¹⁸⁸ 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 it is a functional component of the product, or is descriptive or generic with regard to the product, or because 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 the need for allowing those who make a monochromatic red

¹⁸⁸ 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).

shoe to have accompanying red soles even if someone else holds trademark rights in red soles, but the absence of that necessity when the rest of the shoe is another color.¹⁸⁹

Second, branding (or linguistics) experts can identify and distinguish what is new and distinctive about a mark or product configuration from things that are similarities 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.¹⁹⁰

The ultimate purpose of trademark law is to promote free competition and fair commerce.¹⁹¹ Trademark law ought to protect brands but not also interfere with free competition.¹⁹² The expert perspective can help keep the law from locking up important words,

¹⁸⁹ Cf. *Christian Louboutin, S.A. v. Yves Saint Laurent Am. Holding, Inc.*, 696 F.3d 206 (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 as the trademark is generally valid as against others).

¹⁹⁰ 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 Electronics, Inc.*, 816 F.2d 68 (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, when the adoption process is a central aspect of the dolls' desirability).

¹⁹¹ See *supra* section I.A.

¹⁹² See *id.*

designs, or product configurations. Their viewpoint is thus critical in any trademark infringement case.

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 found to be infringing. Conversely, there is no similar need to encourage works that do not make a material contribution to the relevant field. Indeed, we might even want to discourage works that make no material contribution to their field but merely duplicate the work of others.

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 are more attuned than experts to whether the defendant's product substitutes for the plaintiff's in the marketplace.¹⁹³ Market substitution—whether consumers view particular works 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.¹⁹⁴ IP rights impose costs on society, so we want them to be asserted only when the IP owner faces market risk from infringement.¹⁹⁵

¹⁹³ See *supra* section II.A.

¹⁹⁴ See *supra* Part I (describing the underlying goals of the various IP regimes).

¹⁹⁵ See *id.* (describing this as a limitation in various ways on the different IP regimes).

We could say that Coke has the right to prevent anyone from using the word “Coke” in any context whatsoever, from advertising a competitor to parodying the soda or even writing about it in a newspaper or talking about it at a dinner party. But we don’t do that, because those uses cause no market harm to Coca-Cola.¹⁹⁶ The terms are similar (indeed, identical) to the expert, but the defendant’s use isn’t competing with or substituting for the plaintiff’s; they are directed at entirely different markets.¹⁹⁷ Similarly, an accused hook-and-eye closure must act as a substitute to consumers in the marketplace for it to cause harm to the inventor of Velcro, just as a painting by one artist must act as a substitute for other paintings in the marketplace 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, the taker of a photograph of President Obama isn’t necessarily entitled to control a painting made from that picture.¹⁹⁸ The use of a photograph in a completely different context may be a copy of the photograph as a technical

¹⁹⁶ 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 (1994) (holding 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 P. McKenna, *Irrelevant Confusion*, 62 STAN. L. REV. 413 (2010).

¹⁹⁷ See Lemley & McKenna, *supra* note 7.

¹⁹⁸ These were the facts of the Associated Press’s copyright suit against Shepherd 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 (2012).

matter, but if it 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 doesn't interfere with the incentives to innovate that IP rights create. And it is efforts by IP owners to take control over the use of their works in a completely different market that create the biggest problems for the IP system, from efforts by trademark owners to control parodies, merchandise, and uses on unrelated goods to efforts of copyright owners to control transformative uses of a picture in a search engine or a work of history to efforts by patent trolls to prevent the use of an invention developed in one context to drive a product in an entirely different context.

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 from the vantage points of both the expert and the consumer. Accordingly, the proper audience in IP infringement case is both the expert and the consumer.¹⁹⁹

¹⁹⁹ The third possibility, the ordinary person, seems to serve less of a clear purpose, and generally courts that use the ordinary observer as a distorted proxy for the views of the consumer. As such, we do not discuss it further here. When there is strong reason to believe in a particular context that the expert view might be a proxy for the consumer view or vice versa, *see supra* notes 133, 193 (exploring these possibilities), an IP infringement inquiry can investigate the views of just one of these audiences to get a sense of both of them. 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.

Under our approach, substitutes to consumers that are not also too similar to experts will not be deemed to be infringement, just as similarities sufficient to satisfy experts that are not also substitutes to consumers will not be deemed to be infringement. 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 that. Using expert audiences to focus on technical similarity promotes that goal. It permits many strands of research and creativity to proceed in parallel, many of which will lead to yet greater advances and contributions in both related and unrelated ways.²⁰⁰

Second, our approach allows use of the IP right by a third party whenever the defendant's use does not 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, not only increasing dissemination of creative works but allowing the sorts of remix and user creativity that may themselves be essential to human flourishing.²⁰¹ And it does so without imposing any significant cost on the IP owner, who does not face market

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).

²⁰⁰ See Fromer, *supra* note 52.

²⁰¹ See, e.g., LAWRENCE LESSIG, REMIX: MAKING ART AND CULTURE THRIVE IN THE HYBRID ECONOMY (2008); Katherine J. Strandburg, *Users as Innovators: Implications for Patent Doctrine*, 79 U. COLO. L. REV. 467 (2008).

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 their focus is likely to be more functional and market-regarding than an expert.

For this approach to work, we must define 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 for not suing someone who uses a work in a particular way, the market substitution test becomes circular and ultimately empty.²⁰² 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 product in the same market as the defendant or that they are likely to enter that market in the near future.

An alternative, broader formulation would cede to IP owners rights in markets in which they can show an established practice of licensing. This would be consistent with copyright's current approach to fair use²⁰³ and with patent law's current view that patentees should be paid a reasonable royalty even without market substitution.²⁰⁴ A consumer audience might adopt a similar approach; the fact that certain uses are traditionally licensed while others are not might be reflected in consumer instincts that an IP owner deserves to be paid.²⁰⁵ But a

²⁰² See, e.g., Mark A. Lemley, *Should a Licensing Market Require Licensing?*, 70 LAW & CONTEMP. PROBS. 185 (2007).

²⁰³ See, e.g., *Am. Geophysical Union v. Texaco Corp.*, 60 F.3d 913 (2d Cir. 1994).

²⁰⁴ See 35 U.S.C. § 284 ("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.").

²⁰⁵ 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 Mark 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 rethinking 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. 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 to the marketplace, either themselves or through a licensee. If the patentee (through no fault of a third party²⁰⁶) does not exploit the

Lemley, *supra* note 202; Alex Kozinski & Chris Newman, *What’s So Fair About Fair Use?*, 46 J. COPYRIGHT SOC’Y 513 (1999) (arguing that fair use should be replaced with a system of compulsory licenses).

²⁰⁶ Because a patent right provides a right to exclude others from using the patented invention and improvements on the invention might be patented, it is possible for 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 on the ground that making the rocking chair would also necessarily infringe the patent on the basic chair.

full scope of his or her invention, according to this reasoning, the patentee would be “penalized” by limiting the scope of the invention to accused products consumers would consider substitutes.²⁰⁷

Patent law does not require that patented inventions be commercialized.²⁰⁸ One result has been the rise of non-practicing entities (or so-called “patent trolls”) that do not themselves commercialize the invention; they are now responsible for over 60% of all patent suits.²⁰⁹ If we required commercialization as proof of market substitution, patent trolls 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.

It does seem right that courts should take account of the market relationship between the inventor and the accused infringer in optimizing patent scope. On the other hand, depriving all non-practicing entities of the entire value of their technology would go too far. 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

²⁰⁷ Cf. Chris Cotropia, *The Folly of Early Filing in Patent Law*, 61 HASTINGS L.J. 65 (2009) (arguing that patent plaintiffs should have to sell products in the market before asserting their patent); Sichelman, *supra* note 44 (proposing that commercialization be encouraged through commercialization patents).

²⁰⁸ See Sichelman, *supra* note 44.

²⁰⁹ See Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 114 COLUM. L. REV. (forthcoming 2014) (citing sources).

operate in the same market. While the issue might be easier to analyze when there is an actual marketplace—in that the patentee has actually commercialized the patented invention—we see no reason that the issue cannot also be addressed hypothetically.²¹⁰ 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 unrelated context. Repurposing technology is an important part of the innovative process,²¹¹ and one that patent law currently does too little to encourage. American patent law has no fair use defense,²¹² no real defense for experimental use,²¹³ and virtually no defense even for radical improvers.²¹⁴ 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 normatively desirable for other reasons. Patent law should encourage not just initial invention but follow-on improvement.²¹⁵

²¹⁰ Patent law embraces the hypothetical in employing the person having ordinary skill in the art as a hypothetical construct. *See supra* section I.B.

²¹¹ *See Strandburg, supra* note 201.

²¹² *See generally* Maureen A. O’Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. 1177 (2000); Katherine J. Strandburg, *Patent Fair Use 2.0*, 1 UC Irvine L. Rev. 265 (2011).

²¹³ *See generally* Katherine J. Strandburg, *What Does the Public Get?: Experimental Use and the Patent Bargain*, 2004 WIS. L. REV. 81.

²¹⁴ *See Tate Access Floors, Inc. v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1368 (Fed. Cir. 2002).

²¹⁵ Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839 (1990); Lemley, *supra* note 11.

Bringing the perspective of the consumer to bear in evaluating how the defendant's product compares to what the plaintiff invented can help achieve that goal.

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 the consumer and consumers 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 any minimally significant number of consumers would be confused by the similarity between the marks.²¹⁶ If people think that the time a basketball game starts is the result of a deal with a trademark owner, the trademark owner gets the right to control that starting time.²¹⁷

Trademark law does have some limitations that should require some level of technical similarity. Trademark protection cannot extend to generic terms because of the heavy cost protection would impose on those competing in the relevant industry to describe their goods or services.²¹⁸ Even the presence of a generic term in a composite mark is not itself protectable.²¹⁹ For example, Apple Computer is entitled to prevent other computer companies from using the

²¹⁶ See *supra* section I.A.

²¹⁷ In fact, in at least one case there is a real relationship there. 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 7:11pm).

²¹⁸ Dogan & Lemley, *supra* note 23, at 793-94.

²¹⁹ See, e.g., 15 U.S.C. § 1064.

word “apple,” but not from using the word “computer”; nor can it prevent fruit companies from using the term “apple”. But because the entirety of the mark is given to the fact-finder for assessment, and the law prohibits “dissection” of the mark into protectable and unprotectable components,²²⁰ trademark law gives the fact-finder 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 Computer²²¹) similar even though it is not supposed to consider the use of the generic term. The less obviously a term is generic, the more likely this problem is. Thus, Nuthatch Honey Brown Ale might be found to infringe Nutlee’s Honey Brown Ale even though the courts have held the term “Honey Brown Ale” generic.²²²

A similar story can be told of functional marks and marks that are used by third parties descriptively or parodically.²²³ Functional marks are not to be protected under trademark law even if they have acquired meaning as a brand signifier to consumers.²²⁴ The reason is similar to the denial of 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.²²⁵ We are not entitled to own

²²⁰ 1 MCCARTHY, *supra* note 32, at § 7:36.

²²¹ Apple Computer v. Formula Int’l, 725 F.2d 521 (9th Cir. 1984) (enjoining use of “Pineapple Computer”).

²²² Genessee Brewing Inc. v. Stroh Brewing Co., 124 F.3d 137 (2d Cir. 2007).

²²³ See *supra* text accompanying notes 188-192.

²²⁴ TrafFix Devices, Inc. v. Mktg. Displays, Inc., 532 U.S. 23, 28-29 (2001).

²²⁵ Jay Franco & Sons, Inc. v. Franek, 615 F.3d 855, 860-61 (7th Cir. 2010).

“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,²²⁶ trademark law does not consider as infringing the use by third parties of otherwise valid trademarks to describe their own good or service or to parody the trademark or its associated goods or services.²²⁷

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 there is no logical limit to the scope of trademark law: Whatever consumers think the law is, the law should become.²²⁸ If trademark law is to have any constant meaning, it must come from some limits, either on what trademark law will protect or on the quantum of similarity required to find infringement. Those limits can’t easily take the form of rules, because there is no magic “80% similarity” threshold for mark sameness. But we ought to consider in trademark law 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 genericity, functionality, descriptiveness, or parodic aspects of the trademark and the defendant’s use, as the case may be.

²²⁶ See Mark Bartholomew & John Tehranian, *An Intersystemic View of Intellectual Property and Free Speech*, 81 GEO. WASH. L. REV. 1, 41-54 (2013).

²²⁷ TCPIP Holding Co. v. Haar Comms., Inc., 244 F.3d 88, 103-04 (2d Cir. 2001).

²²⁸ For criticism of this fact, see Stacey L. Dogan & Mark A. Lemley, *Grounding Trademark Law Through Trademark Use*, 92 IOWA L. REV. 1669 (2007); Lemley & McKenna, *supra* note 196.

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.²²⁹ 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 conform the law to whatever they say.²³⁰ Because trademark law focuses on the least sophisticated 10% of consumers,²³¹ the result may be not just a circle but a spiral, in which the more we coddle consumers, the less able to distinguish different goods and services they become.²³² 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

²²⁹ Compare Dogan & Lemley, *supra* note 228, with Graeme Dinwoodie & Mark D. Janis, *Confusion Over Use: Contextualism in Trademark Law*, 92 IOWA L. REV. 1557 (2007).

²³⁰ See *Anheuser-Busch v. Balducci*, 28 F.3d 769 (8th Cir. 1994) (finding infringement based on evidence that, while virtually no one was 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).

²³¹ See *supra* text accompanying note 36.

²³² James Gibson, *Risk Aversion and Rights Accretion in Intellectual Property Law*, 116 YALE L.J. 882 (2007).

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 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.²³³

It seems reasonable to draw a line at some point and say that the law will simply not countenance some theories of consumer confusion. Perhaps that line should be drawn at non-trademark uses.²³⁴ Perhaps it should be drawn at uses that cause no injury to the trademark owner.²³⁵ But regardless where we should 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% confusion or of a defendant’s intent to “free ride” on an existing mark.²³⁶ Too much emphasis on consumer confusion may undermine rather than promote competition in the marketplace—trademark law’s basic goal.²³⁷ And an exclusive focus on the consumer perspective may deemphasize the normative function the fact-finder should serve in trademark law.

²³³ Dogan & Lemley, *supra* note 228, at 1694-95.

²³⁴ *Id.*

²³⁵ Mark A. Lemley & Mark P. McKenna, *Irrelevant Confusion*, 62 STAN. L. REV. 413 (2010).

²³⁶ For explanations of the ultimately empty nature of the anti-free-riding impulse, see Dogan & Lemley, *supra* note 228, at 1694; Lemley & McKenna, *supra* note 7, at 138-42.

²³⁷ See *supra* text accompanying notes 20-25.

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.²³⁸ The Ninth Circuit in particular recognizes that two vantage points ought to be used, the expert and the ordinary reasonable observer. While for the reasons described above we would use the consumer instead of the ordinary reasonable observer, and we have some problems with the way the court applies the test, the Ninth Circuit is correct to recognize that multiple vantage points matter, given copyright law's underlying goals. 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 gives room for transformative reuses of a work in productive contexts as well as encouraging differentiated competitive products that constrain the copyright owner's market power.²³⁹ That doesn't mean copyright is a perfect model; indeed, we suggest above that copyright courts take various approaches to integrating this evidence.²⁴⁰ But copyright law is at least asking many of the right questions.²⁴¹

²³⁸ See *supra* section I.C.

²³⁹ On the economics of product differentiation, see Christopher Yoo, *Copyright and Product Differentiation*, 79 N.Y.U. L. REV. 212 (2004).

²⁴⁰ One of us has argued that most copyright cases get this process backwards, emphasizing technical similarity when it should focus on market equivalence and market substitution when it is technical similarity that matters. Lemley, *supra* note 89.

²⁴¹ This analysis applies more directly to infringement cases assessing copyright law's exclusive right of reproduction, 17 U.S.C. § 106(1), than the right "to prepare derivative works based upon the

Substantial-similarity analysis is not the only place in copyright where both expert and consumer views would be beneficial. Fair use, copyright's law major defense against infringement, would 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."²⁴² While the line between infringement and fair use is murky,²⁴³ 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 name a few.²⁴⁴ 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 to promote the progress of

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 id.* § 101 (defining "derivative work"). Our analysis suggests even more reason for analyzing 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 (1983); Pamela Samuelson, *The Quest for a Sound Conception of Copyright's Derivative Works Right*, 101 GEO. L.J. (forthcoming 2013).

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

²⁴³ *See, e.g.*, Gideon Parchomovsky & Kevin A. Goldman, *Fair Use Harbors*, 93 VA. L. REV. 1483 (2007).

²⁴⁴ *See* Pamela Samuelson, *Unbundling Fair Uses*, 77 FORDHAM L. REV. 2537 (2009).

culture and knowledge.²⁴⁵ These two reasons are precisely those that draw from the expert and consumer vantage points in copyright law. Copyright's hybrid audience, then, is intimately related not only to its infringement analysis but is instrumental in the fair use doctrine.

4. A Missed Opportunity: Design Patents

Design patent infringement traditionally required evidence of both technical similarity and market substitution.²⁴⁶ Unfortunately, recent changes in the law have all but abandoned design patent's traditional reliance on technological substitution.²⁴⁷ 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.²⁴⁸ 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."²⁴⁹ That test had long been supplemented by a requirement that the defendant have appropriated the point of novelty of the invention. If the defendant's use didn't include the novel feature(s) in the patentee's design, it couldn't infringe.

²⁴⁵ 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 Comp. Ent. Am., Inc. v. Bleem, LLC*, 214 F.3d 1022, 1025-30 (9th Cir. 2000) (comparative advertising).

²⁴⁶ See *supra* section I.D.

²⁴⁷ See *id.*

²⁴⁸ Mary Bellis, *Design Patent: The Importance of Great Drawings and Correct Formatting*, ABOUT.COM, http://inventors.about.com/od/designpatents/a/design_patent_f_4.htm (last visited Jan. 30, 2012).

²⁴⁹ *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 672 (Fed. Cir. 2008) (en banc).

In 2008, however, in *Egyptian Goddess, Inc. v. Swisa, Inc.*,²⁵⁰ 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.²⁵¹ 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.²⁵² Novelty still matters, but now only as a defense that must generally be assessed separately from infringement. And the doctrine of functionality, which in theory should prevent design patents from preventing market competition based on the operation of the product rather than its function, has been interpreted so narrowly as to be virtually meaningless.²⁵³

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

²⁵⁰ 543 F.3d 665 (Fed. Cir. 2008) (en banc).

²⁵¹ *Id.* at 676-78.

²⁵² *Id.* at 678.

²⁵³ See *Avia Group v. L.A. Gear Cal.*, 853 F.3d 1557, 1563 (Fed. Cir. 1988); J.H. Reichman, *Design Protection and New Technologies: The United States Experience in a Transnational Perspective*, 19 U. BALT. L. REV. 6, 40 (1991).

mistake,²⁵⁴ because it allows evidence of market substitution alone to prove infringement, regardless 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 is based on 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 theory of infringement. When we do, we find that both the consumer and expert approaches have something to teach us. None of the IP regimes have 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 or vice versa; infringement should properly require both. Because it does, deciding an IP infringement case requires both expert and consumer

²⁵⁴ For criticism of the rule, see Lemley, *supra* note 127, at 1271:

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.

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 both 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. 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.²⁵⁵ Even beyond these issues, there is the worry about 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.²⁵⁶ 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

²⁵⁵ See *supra* Part I.

²⁵⁶ An example of undue influence involves a copyright infringement lawsuit against the Bee Gees recording of the song “How Deep Is Your Love?” See *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 is that the plaintiff’s expert said that 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, at 60, 60 (Apr. 14, 1983).

before, and we are confident they are manageable.²⁵⁷ But courts will have to work to find the right balance in the new hybrid system.

IV. 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 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 access substitutability. Copyright law has internalized this lesson, albeit imperfectly. Patent, trademark, and design patent laws can all learn from its example.

²⁵⁷ *Cf., e.g.,* *Gregg v. Georgia*, 428 U.S. 153, 190-195 (1976) (joint opinion of Stewart, Powell, and Stevens, JJ.) (discussing the benefits of bifurcating proceedings in capital cases into guilt and punishment phases).