

SEEING'S INSIGHT: TOWARD A VISUAL SUBSTANTIAL SIMILARITY TEST FOR COPYRIGHT INFRINGEMENT OF PICTORIAL, GRAPHIC, AND SCULPTURAL WORKS

Moon Hee Lee

ABSTRACT—Before imposing liability for copyright infringement, a court analyzes whether the defendant's allegedly infringing work is substantially similar to the copyright-holder plaintiff's allegedly infringed work. This substantial similarity analysis broadly contains two steps. First, facts and ideas do not receive copyright protection and are filtered out. Second, the two works are compared to see if there is material overlap between the two works' remaining creative expression—i.e., whether or not the two works are substantially similar. This two-step approach furthers the delicate dual goal of copyright law to keep ideas and facts freely available as raw material for creation while awarding an author copyright over particular creative expression.

While this substantial similarity test is noncontroversial, drawing the elusive line between idea and expression has been challenging for the courts. This task is especially difficult in the context of pictorial, graphic, and sculptural (PGS) works. The substantial similarity test evolved largely in the context of literary works and is not perfectly transposable to PGS works. Courts have resorted to two pernicious tendencies in applying the substantial similarity test to PGS works. They have used either what this Note calls a "literal descriptive approach," comparing identifiable objects across visual works, or a "myopic visual approach," comparing abstract visual components such as colors and shapes across visual works. Both of these tendencies fail to approximate how human vision works. Instead of identifying objects first or seeing shapes and colors in isolation, visual experience is initially nonverbal and inherently contextual. A substantial similarity test divorced from visual perception may erroneously draw the line between copyright protection and no protection, deviating from the idea-expression divide.

Drawing on the science of visual perception and the nature of artistic training, this Note proposes an alternate framework for substantial similarity analysis of PGS works. In this truly visual substantial similarity test, the first filtration step would sieve out what this Note calls "perceptual

facts” often reflected in artistic techniques. Visual works would then be compared in terms of how perceptual facts were combined to form an aesthetic, visual composition. This approach correctly conceptualizes the visual idea-expression divide and therefore allows meaningful protection for copyright holders without removing raw material for creativity from subsequent creators.

AUTHOR—J.D. Candidate, Northwestern University School of Law, 2017; B.A., University of Chicago, 2006. Thank you Professor Peter DiCola for advising this Note through all its metamorphoses, and my Note Editor W. Tyler Perry for his substantive comments and enthusiastic support. Sincere thanks to Professor James Lupo and Professor Erin F. Delaney at Northwestern University School of Law and Professor Denis Pelli at New York University, Center for Neural Science for helpful feedback. Finally, many thanks to members of the *Northwestern University Law Review*—especially Margaret Truesdale, David Lurie, Chanelle Han, and Ari Volpe—for their hard work. This Note is dedicated to Professor Tanya Marie Luhrmann, Stanford University, who taught me the writer’s craft and inspired me to write about vision. All errors herein are my own.

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INTRODUCTION

In February 2015, a photo of a simple wedding dress went viral and challenged our notion of visual objectivity.¹ As it “caught fire across the Internet,” opposing camps emerged, one claiming the dress was gold and white while another insisting it was blue and black.² This heated debate attracted manifold participants—including celebrity Taylor Swift and Senator Christopher Murphy—each “convinced that he, or she, was right.”³ Even scientists were initially stumped. It was not obvious why a seemingly objective fact resulted in diverging perceptions.⁴

Neuroscientists finally concluded that dearth of contextual information caused different people to “pick up on different visual cues” in the brain, which then led to different color interpretations.⁵ If the brain perceived the dress to be in the shadow, the dress would look gold and white.⁶ If, on the other hand, the brain perceived the color of the dress to have been washed out in a brilliantly lit room, the clothing would look blue and black, the dress’s actual colors.⁷ This recent social media episode underscores the fact that we perceive colors in context.⁸

For example, we never see “blue” in isolation—there simply is not such a thing in the perceptual brain. Instead, the brain calculates and concludes “blue” based on the colors surrounding the patch of color our brain is trying to identify. Indeed, technically identical color patches may look different depending on what surrounds them.⁹ A color patch surrounded by dark values might seem, for example, much brighter than the same one surrounded by lighter values. Similarly, a color patch surrounded by warm colors may look cooler than if it were surrounded by cool tones

¹ Jonathan Mahler, *The White and Gold (No, Blue and Black!) Dress That Melted the Internet*, N.Y. TIMES (Feb. 27, 2015), <http://www.nytimes.com/2015/02/28/business/a-simple-question-about-a-dress-and-the-world-weighs-in.html> [<https://perma.cc/BL87-6G8C>].

² *Id.*

³ *Id.*

⁴ *Id.*

⁵ See Jonathan Corum, *Is That Dress White and Gold or Blue and Black?*, N.Y. TIMES (Feb. 27, 2015), <http://www.nytimes.com/interactive/2015/02/28/science/white-or-blue-dress.html> [<https://perma.cc/L4UR-Z5H4>].

⁶ *Id.*

⁷ *Id.*

⁸ E. H. GOMBRICH, *ART AND ILLUSION: A STUDY IN THE PSYCHOLOGY OF PICTORIAL REPRESENTATION* 298 (Princeton Univ. Press, Millennium ed. 2000) (1960) (“[T]he retina itself . . . does not react to individual stimuli of light . . . but to their relationship, or gradients.”).

⁹ Two fields of color that emit the exact same wavelengths can appear to the eye to be quite different by manipulating the surround. DALE PURVES ET AL., *NEUROSCIENCE* 246 (5th ed. 2012). Conversely, two fields of colors that emit different wavelengths can seem like the same color to the eye also by manipulating the surround. *Id.*

because our brain is tuned to measure contrast.¹⁰ This idea of seeing contrasts pervades all of visual perception. From seeing colors to an object's detailed features, we see measured differences rather than the absolutes. And artists have deftly manipulated this foundational principle of visual perception to create aesthetic expression, conveying a visual message by controlling the ultimate visual experience.¹¹

The legal test courts use to compare visual works, however, does not reflect this inherently relational nature of visual perception. To determine an infringement of a copyright, courts compare two works to see whether the defendant took "constituent elements of the [plaintiff's] work."¹² The key issue is whether the allegedly infringing work is "substantially similar" to the allegedly infringed work.¹³ Before determining substantial similarity, the comparison test requires filtering out components that are outside the scope of copyright protection. These unprotectible aspects, such as facts and ideas, are left in the public domain for everyone, such as subsequent artists, to use.¹⁴ Therefore, the first key step in designing a substantial similarity test is to design a sieve with appropriate-sized openings to filter unprotectible elements and keep the protectible expressions.

To date, courts have grasped for, but have not been able to fathom a reliable test for visual works. Unfortunately, the substantial similarity test as applied to visual works is unwieldy and unworkable in all circuits.¹⁵ A functional and meaningful substantial similarity test should be based on visual, not literal, language—one that reflects the nature of visual perception. However, courts have not been successful in coming up with a truly visual test. Instead, many courts have tried to awkwardly transpose a test that has been developed for comparing literary works onto comparing visual works.

One consequence of using nonvisual test is that courts now ineffectually sieve unprotectible visual elements. This Note identifies two

¹⁰ *Id.*

¹¹ In describing the "artist's gift," E. H. Gombrich has remarked the following: An artist "has learned to look critically, to probe his perceptions by trying alternative interpretations both in play and in earnest." The artist achieves the "means of illusion" through his painting. GOMBRICH, *supra* note 8, at 313.

¹² *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 361 (1991); *see also* 3 WILLIAM F. PATRY, PATRY ON COPYRIGHT § 9:126, Westlaw (database updated Sept. 2016) (noting that this is "a formulation that has been widely followed").

¹³ *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930) (explaining that the central inquiry to determine infringement of an exclusive right is "whether the part so taken is 'substantial'").

¹⁴ *See* 17 U.S.C. § 102(b) (2012).

¹⁵ *See* 4-13 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 13.03[E][1], LexisNexis (database updated 2016).

flawed approaches courts resort to in the absence of a usable test. Courts either rely on literal descriptions (e.g., an anthropomorphic star) or abstract visual components (e.g., a bordered square) to filter out unprotectible visual components before comparing literal¹⁶ and descriptive *or* abstract and visual components for substantial overlap of material expression.¹⁷

Both of these approaches to substantial similarity have yielded absurd and arbitrary results.¹⁸ On the one hand, when courts use literal descriptions, they might be using a sieve with openings that are too large to filter unprotectible elements. After labeling an object or a feature, the brain erroneously thinks there are only a few ways to visually express it.¹⁹ This might mean courts are filtering out protectible visual expression that went into expressing the identifiable object in a particular way. On the other hand, when courts use abstract visual components, they might be engaging in a meaningless comparison because identifying a visual concept does not point to a particular expression. For example, a particular shade of blue can be created in many ways such that labeling a unit of comparison a “patch of blue” is ambiguous at best. Bemoaning the lack of a reliable substantial similarity test, academics like Rebecca Tushnet have gone so far as to propose that we simply give up on comparing visual works that are not near-exact copies.²⁰

This Note, however, demonstrates the feasibility of a truly visual comparison test that ensures appropriate filtering, guaranteeing meaningful copyright protection for visual works. Furthermore, the science of visual perception implies what this Note calls “perceptual facts,” perceptually based visual components that can then be used to design the appropriate unit of filtering for a truly visual test.²¹

In the proposed test, instead of filtering out (1) the literal descriptions (dress) or (2) the abstract visual concepts (black–blue), perceptual facts (two patches of light and dark value) are filtered out as unprotectible visual

¹⁶ Here and elsewhere throughout the Note, the word “literal” means literary, that is, literal means translated into words or concepts. The word “literal” is not used to mean “exactly the same” as often used in copyright law (e.g., “literal” copying) or in common usage (e.g., he “literally” assigned a hundred pages for today’s copyright class).

¹⁷ See discussion *infra* Section I.C.2.

¹⁸ See cases cited *infra* Section I.C.3.

¹⁹ See discussion *infra* Section II.A.

²⁰ Rebecca Tushnet, *Worth a Thousand Words: The Images of Copyright*, 125 HARV. L. REV. 683, 738–40 (2012). Tushnet, however, would still allow for comparison of near-exact copies of visual works. *Id.* at 739.

²¹ The term “perceptual facts” indicates “facts” in a legal sense to distinguish the kinds of facts that would remain in the public domain as opposed to “expression” that would receive copyright protection. Therefore, perceptual facts would be any visual representation that mimics how the brain sees and would therefore flexibly evolve as perceptual science develops.

facts. In effect, the openings of the substantial similarity sieve are set large enough for perceptual facts to pass through, but small enough for the expressive components (the combination of values, hues, and intensity to create a coherent image of a particular figure in the foreground against a particular background) to remain. By filtering out unprotectible perceptual facts—common artistic techniques that mimic the visual experience—while protecting the original expression in how these techniques were combined in novel ways to form an image, the test proposed in this Note furthers copyright law’s dual goals of protecting expression while keeping abstract ideas and facts in the public domain.²² In other words, this test would allow anyone to acquire and use artistic tools while having an exclusive right in the ultimate composition that he or she creates.

This Note progresses in three Parts. Part I catalogs the tests and tendencies in the current substantial similarity analysis of visual works. Part II develops the idea of perceptual facts mirrored in visual techniques, using as support scientific findings and artistic processes. Finally, Part III offers an improved substantial similarity analysis that is visually and scientifically grounded. This would ensure meaningful copyright protection with appropriate filtration at the idea–expression divide.

I. SUBSTANTIAL SIMILARITY ANALYSIS IN PICTORIAL, GRAPHIC, AND SCULPTURAL WORKS

Visual works receive copyright protection under the category of pictorial, graphic, and sculptural (PGS) works.²³ This Part analyzes the persistent and thorny problem of copyright infringement analysis for PGS works, particularly with respect to the substantial similarity test. First, this Note will delineate the requirements for proving copyright infringement; second, it will catalog the courts’ approach to the substantial similarity element; finally, it will demonstrate why the current approach is flawed in its application to PGS works.

²² 17 U.S.C. § 102(b) (2012) (“In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.”). This idea–expression distinction is echoed in 37 C.F.R. § 202.1(a) (2016) with concrete examples.

²³ PGS works are one of many categories of “works of authorship” in the Copyright Code. 17 U.S.C. § 102(a)(5). The Copyright Code defines PGS works to “include two-dimensional and three-dimensional works of fine, graphic, and applied art, photographs, prints and art reproductions.” *Id.* § 101. The focus of this Note will be two-dimensional works, although the insights may apply equally to three-dimensional sculptural works. *See Rogers v. Koons*, 960 F.2d 301, 306 (2d Cir. 1992) (“Protection under the copyright statute extends to pictorial works.” (citation omitted)); *Folio Impressions, Inc. v. Byer Cal.*, 937 F.2d 759, 762 (2d Cir. 1991) (“[A] drawing . . . is copyrightable by its author, who is defined as the ‘originator’ or ‘maker.’” (citation omitted)).

A. *The Law: Substantial Similarity as a Copyright Infringement Element*

A copyright owner has a bundle of exclusive rights: reproduction, distribution, derivative works, and performance rights.²⁴ Copyright protection for PGS works adhere to “original works of authorship fixed in any tangible medium of expression.”²⁵ Artistic merit is not required; the courts early on declined to adjudicate aesthetic value.²⁶ The bars for fixation,²⁷ authorship,²⁸ and originality²⁹ are also quite low. Copyright protection, however, extends *only* to the creative expression “that display[s] the stamp of the author’s originality.”³⁰ In so doing, copyright law strives for a precarious balance in what is referred to as the idea–expression dichotomy: a copyright must simultaneously protect expression and promote the free dissemination of ideas.³¹

An aggrieved copyright owner may enforce his or her exclusive right(s) by bringing a copyright infringement suit against an infringer.³² To establish a case for copyright infringement, the plaintiff must prove the following three elements: (1) ownership of a valid copyright, (2) actual copying, and (3) actionable copying.³³ Put another way, the copyright

²⁴ § 106.

²⁵ *Id.* § 102(a).

²⁶ See *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 251 (1903). In *Bleistein*, Justice Holmes famously announced, “It would be a dangerous undertaking for persons trained only to the law to constitute themselves final judges of the worth of pictorial illustrations, outside of the narrowest and most obvious limits.” *Id.*

²⁷ § 101 (“A work is ‘fixed’ . . . when [it] is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a *period of more than transitory duration*.” (emphasis added)). But see *Kelley v. Chicago Park Dist.*, 635 F.3d 290, 304 (7th Cir. 2011) (holding that a garden, inexorably changing, is not fixed, suggesting that some artistic medium may elude copyright’s fixation requirement).

²⁸ Authorship is imputed unless a work is a slavish replication of reality. See, e.g., *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 55 (1884) (holding that a portrait photographer’s posing, lighting, and composing of the subject constitutes authorship); *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*, 191 F.2d 99, 104 (2d Cir. 1951) (holding that mezzotints of oil paintings deviated sufficiently from the paintings to constitute authorship).

²⁹ *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 346 (1991) (setting a low bar for originality by stating that only “a *modicum* of creativity” is required for a copyright (emphasis added)).

³⁰ *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 547 (1985).

³¹ See *Rogers v. Koons*, 960 F.2d 301, 308 (2d Cir. 1992) (noting that the public domain is “the inheritance of everyone”).

³² The copyright holder, however, must meet the administrative formality laid out in 17 U.S.C. § 411(a) to initiate a copyright lawsuit.

³³ The courts have had trouble separating the striking similarity related to actual copying and the substantial similarity related to actionable copying. This resulted in conflating actual and actionable copying, and collapsing them into a single step in many circuits. See NIMMER, *supra* note 15, § 13.03[A] (“[T]he term ‘substantial similarity’ often is invoked as a proxy to prove copying as a factual proposition.”). For example, in *Stuff v. E.C. Publications, Inc.*, 342 F.2d 143 (2d Cir. 1965),

holder must show both that copying has occurred (actual copying) and that the copied work is “substantially similar” to the original copyrighted piece (actionable copying).

A plaintiff must prove actual copying—also referred to as copying-in-fact—to disprove parallel independent creation by the defendant.³⁴ Since direct evidence of copying is rare,³⁵ actual copying is generally established using circumstantial evidence of access and striking similarity.³⁶ Most circuits allow expert testimony on the issue of striking similarity—whether coincidence can explain the overlap between two works.³⁷ Copying-in-fact is not by itself actionable. After establishing this “unauthorized use of a copyrighted work,” the copyright holder must next show that the use is “significant enough to constitute infringement.”³⁸ In other words, in addition to showing that copying has actually occurred, the copyright holder must also prove “substantial similarity in the expression between the works” to establish actionable copying.³⁹ This is a question of fact in which the court asks whether “the accused’s work is so similar to plaintiff’s work” that a lay observer would conclude that material appropriation of “substance and value” has occurred.⁴⁰

The substantial similarity requirement anticipates three instances where actual copying does not rise to the level of infringement. In the first scenario, the principle that the law does not concern itself with trifles (*de minimis non curat lex*) applies to copyright law; only copying “done to an unfair extent” results in infringement liability.⁴¹ In the second scenario, the copying is more than *de minimis* but trivial—i.e., the copying was not done to the substantial extent—and therefore does not result in liability.⁴² In the

the Second Circuit restated the test of infringement in a way that concealed the substantial similarity requirement: “When plaintiff proved her ownership of the validly issued copyright and defendants’ copying of the work, she established a prima facie case of infringement under the statute.” This language was picked up in subsequent panel opinions and is, on occasion, still recited.

PATRY, *supra* note 12, § 9:143 (footnotes omitted).

³⁴ In the case of parallel independent creation, the second author has also created protectible expression. See *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*, 191 F.2d 99, 103 (2d Cir. 1951).

³⁵ *Cf. Rogers*, 960 F.2d at 307 (“[T]his case presents the rare scenario where there is direct evidence of copying.”).

³⁶ *Positive Black Talk Inc. v. Cash Money Records, Inc.*, 394 F.3d 357, 368 (5th Cir. 2004).

³⁷ *Laureyssens v. Idea Grp.*, 964 F.2d 131, 140 (2d Cir. 1992).

³⁸ *Newton v. Diamond*, 388 F.3d 1189, 1192–93 (9th Cir. 2004).

³⁹ See PATRY, *supra* note 12, § 9:130.

⁴⁰ *Id.*

⁴¹ *Newton*, 388 F.3d at 1193 (citation omitted).

⁴² No liability would attach even if the alleged infringer only copied expression because the amount copied is not substantial.

third and final scenario, though there was actual copying, what was copied was not part of the plaintiff's original expression—that is the copied aspects of the work fall outside the copyright's scope—and the copying therefore not unlawful.⁴³

Substantial similarity analysis necessarily requires filtering out these unprotectible components. The constitutional directive to “promote the Progress of Science and the useful Arts” requires a “limit on the scope of an author's control” so that a copyright holder cannot “prevent subsequent authors from using concepts, ideas, or facts contained in his or her work.”⁴⁴ Otherwise, every creator must reinvent the wheel, independently making what has already been produced, severely hindering innovation.⁴⁵ Substantial similarity guards the boundary of copyright protection. Yet, designing a precise method for substantial similarity analysis has been “one of the most difficult questions in copyright law, and one that is the least susceptible of helpful generalizations.”⁴⁶

B. *The Elusive Standard: Measuring Substantial Similarity*

One purpose of the substantial similarity analysis is to separate idea from expression in a given work.⁴⁷ The courts have struggled mightily with the august task of designing a substantial similarity sieve with openings that are just big enough to filter out unprotectible elements and leave intact protectible expression. Although circuits vary in their approach to substantial similarity analysis,⁴⁸ the dominant model is the Second Circuit's “abstraction test.”⁴⁹ This Note will therefore describe the Second Circuit's evolving approach and use this test as a model.

⁴³ Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. 539, 548 (1985).

⁴⁴ U.S. CONST. art. I, § 8, cl. 8; see also *Harper & Row*, 471 U.S. at 582 (Brennan, J., dissenting).

⁴⁵ *Harper & Row*, 471 U.S. at 582.

⁴⁶ See NIMMER, *supra* note 15, § 13.03[A].

⁴⁷ See *supra* Section I.A.

⁴⁸ See Mark A. Lemley, *Our Bizarre System for Proving Copyright Infringement*, 57 J. COPYRIGHT SOC'Y U.S.A. 719, 719 (2010) (noting “surprising differences in what exactly we mean by substantial similarity and how it is to be proven” across circuits). The Supreme Court has so far been silent on substantial similarity analysis, neither disapproving nor affirming the Second Circuit's dominant model. See PATRY, *supra* note 12, § 9:120.

⁴⁹ Most circuits now follow some version of the Second Circuit's abstraction test. The most significant deviation from the Second Circuit's abstraction test is the Ninth Circuit's two-step approach. In the Ninth Circuit, the extrinsic test first aims to “determine similarity in general ideas,” and the intrinsic test then “compare[s] the particular expression used.” See NIMMER, *supra* note 15, § 13.03[A][1][c]. This test has been criticized as complicated and difficult to apply. See PATRY, *supra* note 12, § 9:235. Indeed, the Ninth Circuit itself has admitted that no one “has been able to improve upon Judge Learned Hand's famous ‘abstractions test.’” *Sid & Marty Krofft Television Prods., Inc. v. McDonald's Corp.*, 562 F.2d 1157, 1163 (9th Cir. 1977). The Eighth Circuit uses the Ninth Circuit test, while the Sixth Circuit and the D.C. Circuit use an approach similar to the Ninth Circuit test. See

The Second Circuit's abstraction test has evolved since the 1930s when Judge Learned Hand first took a stab at designing a workable substantial similarity test.⁵⁰ First, he observed that when two works are compared at increasing degrees of abstraction, there would inevitably be a point at which the two works are similar.⁵¹ Some works, for example, might be similar only at a highly general level, such as a shared subject matter (abstraction step).⁵² This overlap would then be beyond "a point in [a] series of abstractions" at which the copyright holder can make a property claim.⁵³ From this insight, Judge Learned Hand designed a substantial similarity test that would first filter out unprotectible components (filtration step) and then compare what remains for significant overlap (comparison step).⁵⁴

The Second Circuit has most recently modernized and clarified its substantial similarity test in the software context, and the other circuit courts have begun to use it in comparing PGS works.⁵⁵ In *Computer Associates International, Inc. v. Altai, Inc.*, the Second Circuit articulated three stages of the substantial similarity test: abstraction, filtration, and comparison.⁵⁶ The filtration step requires sieving out components of the plaintiff's works that would not receive copyright protection.⁵⁷ Because overzealous filtration may filter out the expressive components, the filtration step is checked by considering whether a compilation of

NIMMER, *supra* note 15, § 13.03[E][3][d]. For a more comprehensive circuit-by-circuit survey, see PATRY, *supra* note 12, §§ 9:128–9:278.

⁵⁰ Nichols v. Universal Pictures Corp., 45 F.2d 119, 121 (2d Cir. 1930).

⁵¹ *Id.* At some point, even the aspects of a work that the plaintiff created would be "too generalized an abstraction" and therefore "she could not keep it to herself." *Id.* at 122.

⁵² *Id.* at 121.

⁵³ *Id.*

⁵⁴ *Id.*; see NIMMER, *supra* note 15, § 13.03[A].

⁵⁵ The Tenth Circuit, for example, performed the "abstraction-filtration-comparison analysis" to determine whether two visual works are substantially similar. See *Close to My Heart, Inc. v. Enthusiast Media LLC*, 508 F. Supp. 2d 963, 968 (D. Utah 2007). This articulation has also received support from legal academics. See, e.g., Lemley, *supra* note 48, at 719 (approving the *Altai* test as "[a] better model").

⁵⁶ 982 F.2d 693, 706–12 (2d Cir. 1992).

⁵⁷ Although the filtration step is most explicitly articulated in the Second Circuit test, the Ninth Circuit's extrinsic-intrinsic test, see discussion *supra* note 49, contemplates the concept of filtering out unprotectible aspects of the copyrighted work prior to comparing the works for substantial similarity. See *Mattel, Inc. v. MGA Entm't, Inc.*, 616 F.3d 904, 913 (9th Cir. 2010) ("At the initial extrinsic stage, we examine the similarities between the copyrighted and challenged works and then determine whether the similar elements are protectable or unprotectable. For example, ideas, scenes a faire (standard features) and unoriginal components aren't protectable. When the unprotectable elements are filtered out, what's left is an author's particular expression of an idea, which most definitely is protectable." (emphasis omitted) (citations and internal quotation marks omitted)).

unprotectible elements has yielded protectible expression.⁵⁸ To be clear, copyright can adhere to the compilation even of unprotectible elements because of the original way in which the components are arranged and selected.⁵⁹ Just like a computer program whose ultimate expression is created by the “composite result of interacting subroutines,” an artwork too is an expression that is the composition of interacting visual units.⁶⁰ This approach of combining a rigorous abstraction test with a check to ensure the protection of compilation—as discussed in Section I.C, a step that the total concept and feel test attempts to do—provides a model that could be applied to PGS works.

Conducting the abstraction–filtration analysis is simple in theory. The test can be conceptualized as a ladder of abstraction ranging from the most concrete expression rung to the most abstract idea rung.⁶¹ The court starts by determining the lowest rung on which the two works share similarities. If this rung is high enough up on the abstraction ladder—an idea rung—no substantial similarity exists despite any overlap.⁶² If, however, the works share elements on a low enough, concrete enough rung—an expression rung—then the work might be substantially similar to (and thus might infringe) the plaintiff’s copyright.⁶³ If the lowest rung with similarities is on an expression rung, all unprotectible elements—ideas, facts, or other expression in the public domain—are filtered out prior to comparing the two works for substantial similarity.⁶⁴

Determining precisely what to filter out, that is, how large to make the substantial similarity sieve openings, is difficult. Famously stated by Judge Learned Hand, the substantial similarity test, despite its importance, is “inevitably . . . ad hoc” because “no principle can be stated as to when an

⁵⁸ *Softel, Inc. v. Dragon Med. & Sci. Commc’ns, Inc.*, 118 F.3d 955, 967 (2d Cir. 1997) (holding that it is a misapplication of the *Altai* test to filter out the “interrelationship among the design elements”).

⁵⁹ *See Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 341 (1991) (“A compilation is not copyrightable *per se*, but is copyrightable only if its facts have been ‘selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship.’”).

⁶⁰ *Altai*, 982 F.2d at 705.

⁶¹ Jessica Litman illustrates well what Judge Learned Hand was doing at the top-most rung of the ladder: he “analyzed the works’ expression at . . . what he might have termed a higher level of abstraction, comparing descriptive summaries of the plot and characters of the play and the movie.” Jessica Litman, *Silent Similarity*, 14 CHI.-KENT J. INTELL. PROP. 11, 12 (2015).

⁶² For example, if two works’ only shared similarity is the concept of a mystery novel, the court will say the similarities exist on an idea rung on the ladder of abstraction.

⁶³ If the shared similarities are specific aspects of the work, such as character details or the precise wording to express a character’s feelings, the two works would be compared on an expression rung.

⁶⁴ It is possible for expression to be in the public domain; such is the case, for example, if the copyright has expired.

imitator has gone beyond copying the ‘idea,’ and has borrowed its ‘expression.’”⁶⁵ As will be shown next, this problem is exacerbated in the context of PGS works.

C. The Problem: Substantial Similarity Analysis in PGS Works

While the substantial similarity test perhaps is “of necessity vague,” it is nevertheless somewhat “well settled” in the arena of literary works.⁶⁶ The substantial similarity analysis developed in the context of literary works, and has therefore used “the written word as its model.”⁶⁷ When used in other contexts, courts have approached the task as “fit[ting] everything else into the literary mode.”⁶⁸ In comparing two literary works, the courts look to see “*how closely* . . . the second author tracked the first author’s particular language and structure of presentation”⁶⁹ The test for visual works uses the same model but shows *how closely* the second artist tracked the first artist’s particular visual composition.⁷⁰

Applying a substantial similarity analysis test developed for literary works to PGS works, however, is particularly challenging because a visual work’s component parts are not easily distinguishable from the whole.⁷¹ In other words, a test designed for a “story” that has “a linear dimension” of a beginning, a middle, and an end is not easily adapted for PGS works that are “created to be perceived as an entirety.”⁷² Accordingly, the substantial similarity analysis of PGS works cannot be a straightforward, “strict visual comparison of the two items.”⁷³

Therefore, courts have somewhat modified the abstraction test to better fit PGS works. Recognizing the difficulty of isolating component

⁶⁵ *Peter Pan Fabrics, Inc. v. Martin Weiner Corp.*, 274 F.2d 487, 489 (2d Cir. 1960).

⁶⁶ *Id.*

⁶⁷ Tushnet, *supra* note 20, at 684.

⁶⁸ *Id.*

⁶⁹ *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 583 (1985) (Brennan, J., dissenting).

⁷⁰ *See, e.g., Peter Pan Fabrics*, 274 F.2d at 489 (“No one disputes that the copyright extends beyond a photographic reproduction of the design, but one cannot say how far an imitator must depart from an undeviating reproduction to escape infringement. In deciding that question one should consider the uses for which the design is intended, especially the scrutiny that observers will give to it as used. In the case at bar we must try to estimate how far its overall appearance will determine its aesthetic appeal when the cloth is made into a garment.”).

⁷¹ *Id.* (“[T]he same general color, and the arches, scrolls, rows of symbols, etc.” were deemed difficult to tell apart from “the design as a whole.”).

⁷² *Warner Bros. v. Am. Broad. Cos.*, 720 F.2d 231, 241 (2d Cir. 1983) (noting that the substantial similarity “formulation” was developed “in the context of literary works” then “subsequent[ly] appli[ed] to graphic and three-dimensional works”).

⁷³ *Yankee Candle Co. v. Bridgewater Candle Co.*, 259 F.3d 25, 33 (1st Cir. 2001).

parts in visual works, the courts often use the more “discerning observer test,” which compares the “total concept and feel” of two visual works.⁷⁴ However, without a rigorous and reliable visual framework, copyright infringement cases for PGS works invariably suffer from one or both of the two problematic tendencies. The following Sections will introduce the problematic tendencies of relying on literal descriptions of visual works (literal descriptive approach), and using abstract visual units, such as colored shapes, in isolation (myopic visual approach). After laying out these problematic tendencies, this Note will address their root cause—a lack of a proper analytical unit in comparing visual works.

1. The “Total Concept and Feel” Test for PGS Works.—The abstraction test is careful in filtering out unprotectible ideas but might create a substantial similarity sieve with openings that are too big for visual works. The danger in this overzealous filtration is that, if taken too far, this step can potentially filter out a visual work in its entirety, nullifying its copyright protection.⁷⁵ For example, any image can be separated into “composite parts” that are “little more than basic unprotectible elements like letters, colors and symbols.”⁷⁶ Therefore, taking the abstraction test to “an extreme” may result in “almost nothing being copyrightable.”⁷⁷ Indeed in the context of PGS works, courts tend to “paint with too broad a brush” when filtering out the component features in isolation.⁷⁸

In response to the danger of decomposing and filtering out entire visual works, the Ninth Circuit first developed,⁷⁹ and the Second Circuit incorporated,⁸⁰ the “total concept and feel test.”⁸¹ The test was initially designed for cases where the plaintiff’s work “incorporates elements from

⁷⁴ See discussion *infra* Section I.C.1.

⁷⁵ Visual works are especially vulnerable to the danger of filtering out all components. See *Knitwaves, Inc. v. Lollytogs Ltd.*, 71 F.3d 996, 1003 (2d Cir. 1995) (“[T]here can be no originality in a painting because all colors of paint have been used somewhere in the past.” (citation omitted)).

⁷⁶ *Boisson v. Banian, Ltd.*, 273 F.3d 262, 272 (2d Cir. 2001).

⁷⁷ *Id.* (noting also that this approach would then undermine the *Feist* approach to copyrightability of compiled wholes).

⁷⁸ William Patry cites one court as taking the abstraction test’s filtering to the extreme by looking at “stitching pattern” and “color combination” separately. PATRY, *supra* note 12, § 9:136.20.

⁷⁹ *Roth Greeting Cards v. United Card Co.*, 429 F.2d 1106 (9th Cir. 1970), *superseded by statute*, Copyright Act of 1976, 17 U.S.C. §§ 101–1332 (2012), *as recognized in* *Cosmetic Ideas, Inc. v. IAC/Interactivecorp*, 606 F.3d 612 (9th Cir. 2010).

⁸⁰ *Softel, Inc. v. Dragon Med. & Sci. Commc’ns, Inc.*, 118 F.3d 955, 967 (2d Cir. 1997).

⁸¹ This alternate test should be distinguished from the Ninth Circuit’s extrinsic–intrinsic test, which is a variant of the “abstraction test.” Even when both the abstraction test and the total concept and feel test are employed in sequence, the Ninth Circuit’s test “bear[s] no resemblance” to the Second Circuit’s test. PATRY, *supra* note 12, § 9:235.

the public domain.”⁸² Because visual works are composites of abstract ideas, such as shapes, colors, and values, courts often opt to use this test for PGS works. In application, the total concept and feel test asks whether a more discerning observer would deem the similarity between two works attributable to “protected aesthetic expressions original to the allegedly infringed work,” rather than to ideas in the public domain.⁸³ The test implicitly recognizes that a “work may be copyrightable even though it is entirely a compilation of unprotectible elements.”⁸⁴ Indeed examining a work’s “total concept and feel” involves looking at “the original way in which the author has selected, coordinated, and arranged the elements of his or her work.”⁸⁵

For example, the Second Circuit in *Knitwaves, Inc. v. Lollytogs Ltd.* eschewed the danger of potentially filtering out all of the plaintiff’s visual expression through the abstraction test’s “mechanical and counterintuitive . . . exercise” of reducing the image to “common stripes and colors” by using the total concept and feel test to compare sweater designs “as a whole.”⁸⁶ After declining to “extract[] the unprotectible elements,” such as “common stripes and colors,” the court instead engaged in comparing only the works’ “distinctive elements.”⁸⁷ The court looked at the works holistically before concluding that the compositions originated in “one creative source.”⁸⁸ Likewise in a subsequent Second Circuit case, *Hamil America Inc. v. GFI*, the court again “compared the total concept and feel” of two fabric designs, focusing on how the visual components are “selected, coordinated and arranged.”⁸⁹

The total concept and feel test, therefore, may allow visual works’ whole composition—a compilation of otherwise unprotectible components—to receive copyright protection as a visual expression. In the context of PGS works, the total concept and feel test has been praised as “a

⁸² *Yurman Studio, Inc. v. Castaneda*, 591 F. Supp. 2d 471, 496 (S.D.N.Y. 2008) (citing *Boisson*, 273 F.3d at 272).

⁸³ *Id.* (quoting *Tufenkian Imp./Exp. Ventures v. Einstein Moomjy, Inc.*, 338 F.3d 127, 134–35 (2d Cir. 2003)).

⁸⁴ *Knitwaves, Inc. v. Lollytogs Ltd.*, 71 F.3d 996, 1003–04 (2d Cir. 1995) (citing *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991)) (reaffirming that a compilation can demonstrate the requisite creativity for copyright protection).

⁸⁵ *Id.*; see also *Feist*, 499 U.S. at 341 (“A compilation is not copyrightable *per se*, but is copyrightable only if its facts have been ‘selected, coordinated, or arranged *in such a way* that the resulting work as a whole constitutes an original work of authorship.” (quoting 17 U.S.C. § 101 (2012))).

⁸⁶ *Knitwaves*, 71 F.3d at 1003.

⁸⁷ *Id.*

⁸⁸ *Id.* at 1004–05.

⁸⁹ 193 F.3d 92, 103 (2d Cir. 1999) (citation omitted) (internal quotation marks omitted).

welcome check on a tendency of courts to lose the forest for the trees by balkanizing a unified copyrighted work into constituent elements.”⁹⁰ Therefore, since the protectible aspects of visual works are “their overall appearance,” the total concept and feel test is apt for the comparison of PGS works.⁹¹

However, despite this doctrinally sound modern test, the application of the substantial similarity test for visual works has invariably resulted in two problematic tendencies: the courts use (1) the literal descriptive approach to filter and compare literal rather than visual descriptions, or (2) the myopic visual approach to filter and compare abstract visual units that are divorced from how human vision works. As will be demonstrated below, the literal descriptive approach leaves the filtration sieve openings too large (denying plaintiff lawful copyright protection) and the myopic visual approach leaves the filtration sieve openings arbitrary (detaching copyright protection from the underlying visual expression). At the foundation of these two current, problematic approaches is not a flawed doctrine but the unavailability of a reliable and precise visual language courts can use to apply the total concept and feel test to PGS works.

2. *The First Problematic Tendency: Literal Descriptive Approach.*—Courts have recognized that preserving the idea-expression distinction requires customizing the analysis based on the category of the creative work.⁹² A copyright infringement test designed to analyze literary works, compare musical compositions, and measure PGS works would naturally be comprised of verbal units such as metaphors, musical concepts such as melody, and visual elements such as lines, respectively. However, courts deviate from this intuition when they collect literal descriptions of visual works’ objects and features, and compare them across images instead of comparing overlapping visual components.⁹³ Unfortunately, thinking in terms of literal descriptions corresponds to our cognitive, rather than perceptual, brain function.⁹⁴

⁹⁰ PATRY, *supra* note 12, § 9:155.

⁹¹ *Id.* § 9:162.

⁹² See, e.g., *Franklin Mint Corp. v. Wildlife Art Exchange, Inc.*, 575 F.2d 62, 65 (3d Cir. 1978) (“Isolating the idea from the expression and determining the extent of copying required for unlawful appropriation necessarily depend to some degree on whether the subject matter is words or symbols written on paper, or paint brushed onto canvas.”).

⁹³ See, e.g., *Boisson v. Banian, Ltd.*, 273 F.3d 262, 273 (2d Cir. 2001) (“cow”); *Folio Impressions, Inc. v. Byer Cal.*, 937 F.2d 759, 761 (2d Cir. 1991) (“rose”).

⁹⁴ See VICKI BRUCE ET AL., *VISUAL PERCEPTION: PHYSIOLOGY, PSYCHOLOGY AND ECOLOGY* 268 (4th ed. 2003).

This is problematic because object identification and visual perception are distinct brain tasks. Figure 1 illustrates this; before checking the title in this footnote,⁹⁵ look at the image before reading on—what do you see? Seeing abstract black shapes on a white background (visual experience) is separate from seeing the birds (cognitive interpretation). When we convert an image to a descriptive, literal list of identifiable objects, we rely on prototypes in our brain to understand the image rather than engaging in a perceptual experience.⁹⁶ Because the repertoire of visual prototypes is idiosyncratic, prototypes cannot be the basis for an *objective* test.⁹⁷

FIGURE 1: PROTOTYPE VS. PERCEPTION



Another perhaps more important problem for copyright policy is that a literal descriptive approach does not correspond to a meaningful protection

⁹⁵ The title of this image is “penguins in love,” created using a photo by Paz Arando. Paz Arando, UNSPLASH (Sept. 5, 2016) <https://unsplash.com/@pazarando?photo=7hy971VUte0> [<https://perma.cc/8TMT-NSTA>]. For a classic image illustrating how objection identification can modify the visual experience, see the 1966 photograph by Ronald C. James, featured in Alexis C. Madrigal, *Things You Cannot Unsee (and What They Say About Your Brain)*, ATLANTIC (May 5, 2014), <http://www.theatlantic.com/technology/archive/2014/05/10-things-you-cant-unsee-and-what-that-says-about-your-brain/361335/> [<https://perma.cc/Y6YX-6MYA>].

⁹⁶ Prototypes are formed by a composite of particulars. For example, a prototype dog is a generic image that, instead of corresponding to a particular dog previously seen, is an average epitome of the idea of all dogs previously encountered. MICHAEL S. GAZZANIGA, RICHARD B. IVRY & GEORGE R. MANGUN, COGNITIVE NEUROSCIENCE: THE BIOLOGY OF THE MIND 434–35 (2d ed. 2002).

⁹⁷ I will not discuss the subjectivity aspect of using literal descriptions in substantial similarity analysis beyond this point because this involves another perennial issue in intellectual property, the problem of audience. See generally Jeanne C. Fromer & Mark A. Lemley, *The Audience in Intellectual Property Infringement*, 112 MICH. L. REV. 1251 (2014) (discussing the inconsistency across intellectual property infringement suit standards in patent, copyright, and trademark law as to whether the works are judged from the expert, the consumer, or the ordinary person’s point of view).

of visual expression, especially for representational art. In dissecting a work of representational art, the identifiable objects—patently perceived—tempt the courts to compare the presence or the absence of those representations rather than engage in a visual analysis.⁹⁸ This approach envisions a substantial similarity sieve with openings that are too large. With this standard, we might filter out artist's aesthetic decisions, the choices that deserve copyright protection, by deeming them a mere representation of a set of named objects.⁹⁹ We would then develop a copyright law where we pretend that Van Gogh's swirly night sky painting is similar to Pissarro's impressionistic and much more subdued night sky painting, simply because we can identify both as paintings of the night sky. Because copyright law protects creative expression rather than the subject matters of images, this is one tellingly absurd result of the literal, descriptive approach.

A flip side of less protection for representational images is that, under the literal descriptive approach, abstract artworks that evade object labeling might receive greater copyright protection. For example, in upholding that the "rose" patterns were not substantially similar, the Second Circuit noted that "by the rose's very nature one artist's rendering of it will closely resemble another artist's work."¹⁰⁰ From this one might infer that an abstract painting based on roses might cross over to idea at a relatively higher rung on the ladder of abstraction than a representational painting of roses. The Third Circuit has also recognized this literal descriptive approach's absurd result: a "painter like Monet when dwelling upon impressions created by light on the facade of the Rouen Cathedral is apt to create a work which can make infringement attempts difficult" by the virtue of its abstract nature.¹⁰¹ In contrast, "an artist who produces a rendition with photograph-like clarity and accuracy may be hard pressed to prove unlawful copying by another who uses the same subject matter and the same technique."¹⁰²

⁹⁸ See, e.g., *Cavalier v. Random House, Inc.*, 297 F.3d 815, 827 (9th Cir. 2002) ("These significant elements are absent from the Cavaliers' work. Thus, we do not find a triable issue of substantial similarity as to this illustration.").

⁹⁹ Tushnet, *supra* note 20, at 687.

¹⁰⁰ *Folio Impressions, Inc. v. Byer Cal.*, 937 F.2d 759, 766 (2d Cir. 1991).

¹⁰¹ *Franklin Mint Corp. v. Nat'l Wildlife Art Exch., Inc.*, 575 F.2d 62, 65 (3d Cir. 1978) ("[I]n the world of fine art, the ease with which a copyright may be delineated may be depend on the artist's style.").

¹⁰² *Id.*; see also PATRY, *supra* note 12, § 9:167 ("The limitations imposed by standard treatment of a subject were also to be taken into account, since a 'scientific drawing of a bird must necessarily be more similar to another of the same nature than it would be to an abstract version of the creature in flight.'").

The science of visual perception can explain why representational paintings look more similar than abstract ones. Once humans identify an object, we tend to think there are only a few ways to visually represent it.¹⁰³ However, there is no legal justification for what results: artistic expression in abstract works devoid of identifiable objects may receive greater copyright protection than artistic expression in representational works.

And yet, the literal descriptive approach is pervasive, even for courts that ostensibly use the total concept and feel test and are aware that the nature of visual works may call for a test distinct from one used for literary works.¹⁰⁴ The Second Circuit, for example, in deciding *Boisson v. Banian, Ltd.*, a copyright infringement case involving high-end alphabet quilts, ostensibly used the total concept and feel test and recognized that the arrangement of unprotected elements, such as the blocks of colors, can cohere into a copyrightable whole.¹⁰⁵ Incredibly, immediately following the articulation of the total concept and feel standard, the court became mired in a highly feature-specific literal comparison, finding two of the defendant's alphabet quilt to infringe the plaintiff's based on such things as the similarity in the placement and the identity of specific, representational icons on a grid.¹⁰⁶

The reliance on a literal descriptive approach becomes patent when the court described the plaintiff's quilt as an extensive and detailed list of identifiable features: the grid ("six horizontal rows, each row containing five blocks"), the letters and their placements, and the icons ("a cat, a house, a single-starred American flag and a basket").¹⁰⁷ Based on this literal descriptive comparison, defendant's quilt was found to be substantially similar to the plaintiff's quilt; the alphabets were similarly arranged, and the only differences between the icons were that "the picture of the cow jumping over the moon is somewhat altered, the bear is replaced by a teddy bear sitting up and wearing a vest that looks like a single-starred American flag, and the star in the last block is represented in a different color."¹⁰⁸

In essence, the court's conclusion on the substantial similarity comparison depended on whether there was a cat or a cow in a certain box in a grid, a wholly nonvisual distinction between the works. Similarly in

¹⁰³ See discussion *infra* Section II.A.

¹⁰⁴ *Knitwaves, Inc. v. Lollytogs Ltd.*, 71 F.3d 996, 1003–04 (2d Cir. 1995).

¹⁰⁵ 273 F.3d 262, 273 (2d Cir. 2001). For photos of the quilts at issue, see *Copyright Basis*, UNIV. OF MICH. LIBRARY (Jan. 10, 2017), <http://guides.lib.umich.edu/copyrightbasis/rights-of-copyright-holders> [<https://perma.cc/4UJW-TJ5Y>].

¹⁰⁶ *Boisson*, 273 F.3d at 373–74.

¹⁰⁷ *Id.* at 273–76.

¹⁰⁸ *Id.* at 273.

another Second Circuit case that employed a literal descriptive approach, liability for copyright infringement for PGS works rested on whether or not the allegedly infringing image “depict[ed] a boy wearing glasses.”¹⁰⁹ Essentially, despite articulating in theory the total concept and feel test that can visually analyze images, the courts in practice have been playing an elaborate game of “spot the difference” with answer keys provided by the litigants.¹¹⁰

Courts may be well intentioned when they meticulously catalog and compare descriptive features. It makes some logical sense to believe that a more detailed approach is a more thorough one and that a more thorough test is a more precise one. The Ninth Circuit, for example, in a case involving illustrations in two children’s books, exemplifies a well-intentioned reliance on details, one based on striving to modify a test designed for literary works to one for visual works.¹¹¹ The Ninth Circuit stated that because “[t]he precise factors evaluated for literary works do not readily apply to art works,” it compared the illustrations by “look[ing] to the similarity of the objective details in appearance.”¹¹² The court then went on to compare literal similarities such as the identifiable character features (“Ping-Pong ball-shaped eyes” and “bulbous nose”); actions (“dancing in a top hat,” “lounging,” and “yawning”); and subject matter (the night sky in which “a star [is] being polished”).¹¹³

This literal descriptive approach, however, is ultimately incoherent. How can two images be found substantially similar because they contain a sufficient amount of the same identifiable stuff? By this logic, two visual images that contain fifty state birds may be found to be similar even if the two works are visually distinct. Surely copyright protection for visual expression cannot turn on literal comparison of features.

3. *The Second Problematic Tendency: Myopic Visual Approach.*—The second problematic tendency occurs when a court uses seemingly visual concepts to compare works. They are *seemingly* visual because abstract visual units, such as a colored shape, are

¹⁰⁹ Scholastic Inc. v. Stouffer, 81 F. App’x 396, 398 (2d Cir. 2003).

¹¹⁰ Mannion v. Coors Brewing Co., 377 F. Supp. 2d 444, 463 (S.D.N.Y. 2005) (relying on “the similarities and differences between [the] works” that “[t]he parties have catalogued at length and in depth” to do the substantial similarity analysis).

¹¹¹ Cavalier v. Random House, Inc., 297 F.3d 826 (9th Cir. 2002).

¹¹² *Id.* (citation omitted). Of course the Ninth Circuit’s test deviates from the Second Circuit’s test. However, the “extrinsic test” is analogous to the filtration step in the Second Circuit’s test in that both require “a court [to] filter out and disregard the non-protectible elements in making its substantial similarity determination.” *Id.* at 822–23.

¹¹³ *Id.* at 827.

not perceived in isolation as the courts using myopic visual approach presume.¹¹⁴ In other words, what is perceived as a red rectangle, for example, is seen as one because the surroundings make it so. Of course, what the factfinder sees already takes context into account. There are nonetheless three problems with using abstract visual units for substantial similarity analysis. First, abstract visual ideas, such as size, value, and color of shapes, have no corresponding perceptual analog and therefore would result in a test that could theoretically be reliable (if consistently applied) but not precise.

The second and related problem is that the abstract visual units are ambiguous. For instance, a shape may be perceived larger than its actual size on paper for at least two reasons. An artist who knows how to create visual effects on the page may have placed the shape in such a way to imply convergence of visual rays—i.e., linear perspective—so the shape looks not smaller but far away. A shape may also be perceived larger than its actual size because it is surrounded by darker values. Therefore, by comparing abstract visual notions such as a shape of a certain size, it may be impossible to know whether two similar visual expressions were compared.

Finally and most importantly, the third problem is that using abstract visual units may not result in meaningful copyright protection. On the one hand, not filtering abstract visual units creates the danger of giving overly broad monopoly protection in the form of a copyright to a single artist. The court may inadvertently award copyright for a mere artistic technique that reflects how the human eye sees, precluding others from using similar techniques to create a visual impression. If, on the other hand, the courts filter out these abstract visual units, they may also filter out combinations of visual elements—or how the artists have combined techniques to create a particular expression—by reducing images down to the most abstract components instead of looking at the expression as a whole. The courts therefore should not adopt abstract visual units in comparing PGS works.

Unfortunately, the courts that have tried to use this myopic visual approach and have already run into a wall. This problematic tendency is prominently demonstrated again in *Boisson v. Banian*, where the court used unprotectible visual concepts such as a shape of a letter in its dissection of visual works.¹¹⁵ The *Boisson* court relied on the colors of the letters and the square blocks—abstract visual units—to make a substantial similarity

¹¹⁴ See discussion *infra* Section II.A.

¹¹⁵ 273 F.3d 262, 273–76 (2d Cir. 2001).

determination for sets of quilts.¹¹⁶ Instead of analyzing the holistic arrangement of these abstract visual components, the court looked at each visual abstract unit in isolation.¹¹⁷

The myopic visual approach erroneously relies on unprotectible elements to determine that an observer would “perceive [two works] as coming from one creative source.”¹¹⁸ The court in *Knitwaves, Inc. v. Lollytogs Ltd.* displayed both the linear descriptive and the myopic visual tendencies when it held that two sweater designs are substantially similar because they both feature “the same two fall symbols” and “virtually the same color scheme.”¹¹⁹ First of all, leaves and squirrels, used to depict fall, should have been filtered out as scenes a faire. The fact that they were not shows that the court employed a literal descriptive approach.¹²⁰ The court also used a myopic visual approach. A color palette, not a protectible idea, was myopically considered in isolation to find that the works shared a substantial overlap.¹²¹ Part III explores how to move away from viewing visual units in isolation to perform a truly visual and rigorous total concept and feel test.

* * *

These cases demonstrate that courts simply do not know how to take a truly visual approach to substantial similarity analysis. The total concept and feel test is currently difficult to apply without a meaningful standard as to what creates a protectible compilation of visual components. Indeed, while trying to speak in visual language to protect “precisely the type of ‘original selection’” that received copyright protection in theory, a factfinder is left without a precise standard or language to dissect a visual work.¹²² Lacking precise units that match visual reality, a court was left with vague concepts such as an “open, less busy aesthetic,” “motifs,” and “structural layout.”¹²³ In another case, the substantial similarity analysis

¹¹⁶ *Id.*

¹¹⁷ *See id.*

¹¹⁸ *Knitwaves, Inc. v. Lollytogs Ltd.*, 71 F.3d 996, 1004 (2d Cir. 1995).

¹¹⁹ *Id.*

¹²⁰ *See supra* Section I.C.2.

¹²¹ *Id.*; *see* *Mannion v. Coors Brewing Co.*, 377 F. Supp. 2d 444, 462 (S.D.N.Y. 2005); *see also* NEIL WEINSTOCK NETANEL, COPYRIGHT’S PARADOX 61 (2008) (“Under the total-concept-and-feel and audience tests for substantial similarity, what might once have been considered the permissible, indeed laudable, reformulation of an unprotected ‘idea’ may now purportedly constitute infringing copying of ‘expression.’”).

¹²² *Tufenkian Imp./Exp. Ventures v. Einstein Moomjy, Inc.*, 338 F.3d 127, 136 (2d Cir. 2003).

¹²³ *Id.* The court belies its lack of precise articulation of visual standard by reverting back to a territory it is familiar with—literary works—by analogizing the copying of an image to taking “the poem’s ‘feel.’” *Id.* at 137.

was done on the basis of whether an image looked “computer-generated” or “expensive [and] hand-made.”¹²⁴

Perhaps, as Rebecca Tushnet noted, the difficulty lies in the fact that “the artistic enterprise seems so opposed to the legal enterprise: irrationality versus rationality, subjectivity versus objectivity, fantasy (or Truth) versus facts, and so on.”¹²⁵ The difficulty, to take her argument one step further, may not be the visual subject matter, but a lack of visual awareness. Part II starts to explore how a better understanding of human vision can help design a test that is rooted in the fundamentally contextual nature of visual perception.

II. VISUAL PERCEPTION, VISUAL LANGUAGE, AND PERCEPTUAL FACTS

The current visual substantial similarity test is inconsistent with how we see. Though the brain is the final frontier,¹²⁶ a general consensus among neuroscientists has emerged over recent decades: human vision is contextual.¹²⁷ From this idea, we can derive what this Note calls “perceptual facts.” These facts do not refer to true statements, but processes and techniques derived from the principles of visual perception. These perceptual facts are a set of techniques for creating PGS works that mimic the contextual nature of visual perception.¹²⁸ Artists learn to manipulate perceptual facts to represent the three-dimensional world on a two-dimensional surface and to create a particular visual impression.

Perceptual facts can be used in designing a visual substantial similarity analysis. Copyright would protect the added layer of artistic expression rather than the perceptual facts—whether these were learned, part of custom and technique, or independently discovered. This Part explores the strong consensus that has emerged in the science of visual perception about the contextual nature of visual perception¹²⁹ and how

¹²⁴ *Odegard Inc. v. Safavieh Carpets, Inc.*, 398 F. Supp. 2d 275, 281 (S.D.N.Y. 2005).

¹²⁵ Tushnet, *supra* note 20, at 693–94.

¹²⁶ See, e.g., Paul G. Allen & Francis S. Collins, *Toward the Final Frontier: The Human Brain*, WALL ST. J. (Apr. 8, 2013), <http://on.wsj.com/1MSP6ay> [<https://perma.cc/94B6-P2JW>].

¹²⁷ Some questions about visual perception are still unanswered but go beyond the scope of designing a visual substantial similarity analysis. They include questions like “how are context frames represented in the cortex?”—the cortex being the most sophisticated part of the brain that draws on cognitive schema in addition to retinal data—and “how do motivation and attention modulate contextual processing?” See Moshe Bar, *Visual Objects in Context*, 5 NATURE REVIEWS NEUROSCIENCE 617, 627 (2004).

¹²⁸ Cf. Pascal Wallisch, *Why “Dressgate” Matters*, PASCAL’S PENSEES (Feb. 28, 2015), <http://pensees.pascallisch.net/?p=1901> [<https://perma.cc/2KMJ-59Q6>] (“It has been known for a long time that color vision is strongly susceptible to illumination and context.”).

¹²⁹ See discussion *infra* Section II.A.

artists learn to manipulate these principles using perceptual facts.¹³⁰ These insights set the stage for Part III, which proposes a new test that first filters out perceptual facts in a newly designed substantial similarity analysis sieve suitable for comparing PGS works.¹³¹

A. Visual Perception and the Credibility of "Perceptual Facts"

A picture is a fact.

—Ludwig Wittgenstein¹³²

Vision initiates when light strikes the eye's retina.¹³³ An eye is not simply a camera that captures an image.¹³⁴ The retina collects the information contained in the light, translates it into electrical signals, then transmits those signals along a neural visual pathway.¹³⁵ All visual perception experiments attempt to answer a seemingly impossible puzzle: how does the brain project the three-dimensional world onto the two-dimensional retina, then "reconstruct the objects and the surfaces that we 'see'" in the mind's eye?¹³⁶

Of particular importance to designing a scientifically based, truly visual substantial similarity test for PGS works is the problem of "stimulus equivalence," also known as "object constancy." This problem results from the fact that there are infinite variations of visual stimuli, each composed of a pattern of wavelengths of light that could represent a single object.¹³⁷ To illustrate, think about your best friend's face. The way that a friend's face is projected onto your retina may vary according to multiple factors such as

¹³⁰ See discussion *infra* Section II.B.

¹³¹ See *infra* Part III.

¹³² Tushnet, *supra* note 20, at 693 (citing LUDWIG WITTGENSTEIN, *TRACTATUS LOGICO-PHILOSOPHICUS* ¶ 2.141 (D.F. Pears & B.F. McGuinness trans., Humanities Press 1974) (1921)).

¹³³ The brain is in "complete darkness" inside the skull. Pascal Wallisch, *Lessons from the Dress: Vision Is Fundamentally Ambiguous—But Usually Not This Ambiguous*, SLATE (Feb. 27, 2015), http://www.slate.com/articles/health_and_science/science/2015/02/what_color_is_this_dress_a_scientist_explains_visual_ambiguity_and_color.html [<https://perma.cc/2UZA-9CUM>]. Therefore, "the brain relies on the eyes to supply an image of the outside world, but there are many processing steps between the translation of light energy into electrical impulses that happens in the eye and the neural activity that corresponds to a conscious perception for the outside world." *Id.*

¹³⁴ See GOMBRICH, *supra* note 8, at 298 ("[T]he retina itself . . . does not react to individual stimuli of light . . . but to their relationship, or gradients.").

¹³⁵ Burke Frank, *Vision Quest: Psychologist Steven Shevell Breaks Down How the Brain Processes What the Eye Sees*, U. CHI. MAG. (2010), <http://magazine.uchicago.edu/1012/investigations/vision-quest.shtml> [<https://perma.cc/A98F-QRQL>] ("What we perceive as properties essential to whole objects . . . are actually processed by separate pathways of the brain.").

¹³⁶ Leif H. Finkel & Paul Sajda, *Constructing Visual Perception*, 82 AM. SCIENTIST 224, 224 (1994).

¹³⁷ BRUCE ET AL., *supra* note 94, at 265–66.

“lighting conditions and their distance, angle, and facial expression.”¹³⁸ Despite the infinite number of possible representations of a friend’s face, we do not see them as infinitely different people—we identify our friend’s face despite the myriad visual stimuli. This is why recognition, seeing one of infinite variations, is not equivalent to object identification; the former is a perceptual event whereas the latter is a cognitive interpretation.

Although facial and object recognition starts with visual perception when the light hits the retina, a cognitive process creates the ultimate result. We learn to identify objects and faces through a process of learning not seeing.¹³⁹ From infancy, we develop extensive catalogues of “internal representation” that we can use for “template matching,” the cognitive process involved in object or facial identification.¹⁴⁰ Simply put, for each letter, object, or face we see, the brain compares it to a set of templates, a library of prototypes in the brain’s long-term memory, to find the best fit.¹⁴¹

This scientific fact recommends against the literal descriptive approach courts have relied on as a visual substantial similarity test identified and discussed in Section I.C.2.¹⁴² This is so because if we base comparisons of visual works on object identification, we are relying on cognitive schemas that reduce infinite visual expressions to a prototype. This aspect of object identification shows that the literal descriptive tendency captures cognitive in addition to perceptual processing in the brain, and is therefore not a truly visual substantial similarity test.

The consensus that has emerged in visual perception research rejects not only the literal descriptive approach but also the myopic visual approach. Broadly categorized, there are two insights from the study of visual perception, summarized as follows, that are important to deriving and using perceptual facts to create a visual substantial similarity test for PGS works. First, vision is holistic. This fact affirms the total concept and feel test, seeking to protect visual composition as expression. Second, vision is contextual. Because visual perception is contextual, an abstract visual notion such as a band of color in isolation cannot be a perceptual fact. This allows us to design a unit of analysis for rigorous visual substantial similarity analysis—i.e., perceptual facts. These perceptual facts rectify the well-intentioned but erroneous myopic visual approach identified and discussed in Section I.C.3.¹⁴³

¹³⁸ *Id.* at 265.

¹³⁹ *Id.* at 268.

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

¹⁴² *See supra* Section I.C.2.

¹⁴³ *See supra* Section I.C.3.

When we identify an object, we do not first see the features, and then add them up to form the object. Rather, we initially see the whole. Gestalt theory has demonstrated this perceptual fact.¹⁴⁴ Gestalt psychologists revolutionized visual thinking with an idea of vision that undermined the prevailing notion of vision as “proceeding from the particular to the general” and showed that seeing occurs at the “overall structural features” first, then the details.¹⁴⁵ This holistic vision is also highly contextual. The parts of the visual field, the visual elements, influence the experience—suggesting strongly that the arrangement of abstract details alters the visual experience. In other words, even though we see the whole, context influences how the details are seen.¹⁴⁶

Object recognition is done primarily through the initial, holistic delineation of the object.¹⁴⁷ Recent studies show that object identification is contextual. Our cumulative visual experience cues our rapid recognition of the object in context.¹⁴⁸ In fact, visualizing an object in isolation is difficult.¹⁴⁹ Context clues function as “glue that binds objects in coherent scenes.”¹⁵⁰ And even when we focus on features, even simple features like a line are not seen in isolation but in context.¹⁵¹

This is why the myopic visual approach to substantial similarity is nonsensical. We do not see absolute value or color—vision occurs by perceiving contrasts in color, value, or mass. Ultimately, what is perceived may not reflect physical reality.¹⁵² This phenomenon makes sense when we recall that the visual system is primarily for survival, not aesthetic enjoyment.¹⁵³ For example, color vision is useful to distinguish ripe fruit,

¹⁴⁴ And many of these descriptive rules have been empirically tested and for the most part confirmed. See BRUCE ET AL., *supra* note 94, at 134, 138.

¹⁴⁵ RUDOLF ARNHEIM, *ART AND VISUAL PERCEPTION: A PSYCHOLOGY OF THE CREATIVE EYE* 45 (2004).

¹⁴⁶ *Id.*

¹⁴⁷ Michelle R. Greene & Aude Oliva, *Recognition of Natural Scenes from Global Properties: Seeing the Forest Without Representing the Trees*, 58 *COGNITIVE PSYCHOL.* 137, 138 (2009) (“[T]he initial scene representation can be based on . . . global properties, and not necessarily the objects it contains.”).

¹⁴⁸ Bar, *supra* note 127, at 617 (noting that contextual cues are “predictable properties” that “facilitate perception, and in particular object recognition”).

¹⁴⁹ *Id.* (“It is hard to imagine seeing any [object] without a background and other objects.”).

¹⁵⁰ *Id.*

¹⁵¹ Amanda Williams & Naomi Weisstein, *Line Segments Are Perceived Better in a Coherent Context Than Alone: An Object-Line Effect in Visual Perception*, 6 *MEMORY & COGNITION* 85, 85 (1978) (“[S]imple features are not detected independently of the context that they are in . . .”).

¹⁵² Frank, *supra* note 135.

¹⁵³ See MARGARET LIVINGSTONE, *VISION AND ART: THE BIOLOGY OF SEEING* 24 (2014). If you think vision is no longer used for survival because we do not live in nature, think again. Much of our

which has a warm color, from the green foliage. Value (degree of luminescence), on the other hand, is useful for depth perception and form as we navigate the physical world.¹⁵⁴ Therefore, what the eye registers and the brain processes is not an absolute point on a light–dark scale or a hue on a color wheel. Instead, information processing is triggered by contrast.¹⁵⁵ Visual information is contained in the relationships between the patterns that ultimately come to a coherent image.¹⁵⁶

The physiological basis for this relational nature of visual processing was found in primary visual cells—ganglion cells—which scientist Stephen Kuffler found to be activated by the presence of light placed acutely on a corresponding retinal area on the back of the eye.¹⁵⁷ However, if the light is shown on an adjacent retinal area, these particular cells are inhibited.¹⁵⁸ Kuffler termed this idea “center/surround organization.”¹⁵⁹

The center/surround organization is pervasive throughout the visual system. Contrast detection permeates the visual pathway since “neurons respond best to abrupt changes, rather than to gradual shifts in luminance,” and “ignore gradual changes in light and the overall level of the illuminant, which are usually not biologically important.”¹⁶⁰ Additionally, “[i]t is more efficient to encode only those parts of the image where there are changes or discontinuities than to encode the light level at every point in the entire image.”¹⁶¹ In other words, the brain has evolved to expend energy on detecting degrees of contrasts. Artists construct pictures using this visual principle.¹⁶² For example, the artist can create the effect of a hue and value

visual processing power is in fact devoted to avoiding bumping into hard, spiky, or hot objects that would cause injury.

¹⁵⁴ See *id.* at 31, 42.

¹⁵⁵ Morgane M. Roth et al., *Thalamic Nuclei Convey Diverse Contextual Information to Layer 1 of Visual Cortex*, 19 NATURE NEUROSCIENCE 299, 299 (2016) (“[P]erception is . . . highly dependent on the context in which a given stimulus occurs, such as the sensory surround . . .”).

¹⁵⁶ BRUCE ET AL., *supra* note 94, at 86.

¹⁵⁷ See LIVINGSTONE, *supra* note 153, at 49; see also BRUCE ET AL., *supra* note 94, at 85 (noting that the goal of initial visual processing is to “specify[] where the most significant changes occur in the intensity and spectral composition of light”).

¹⁵⁸ See LIVINGSTONE, *supra* note 153, at 49.

¹⁵⁹ *Id.* at 52.

¹⁶⁰ See *id.* at 50.

¹⁶¹ See *id.* at 50–51.

¹⁶² *Id.* at 52, 54 (“Many visual perceptions, such as luminance, color, motion, and depth, exhibit greater sensitivity to abrupt than to gradual change, and in each modality this selectivity is due to an underlying center/surround organization. . . . [A]rtists have learned to take advantage of the fact that our visual systems are selectively sensitive to discontinuities . . .”).

by placing an adjacent contrasting color or tone.¹⁶³ Throughout an entire picture, the artist can vary degree of detail and blur so that in contrast the picture is more realistic and dynamic.¹⁶⁴ The composition of a picture depends largely on the artist's masterful use of contrasts, ultimately derived from brain physiology.

Drawing from the theme that visual perception is contextual and the observations of how contrast can be manipulated by artists, we can start to list perceptual facts. A juxtaposition of two colors, for example, is a perceptual fact since color, like all visual factors, is perceived relationally.¹⁶⁵ In the brain, a color is defined only at the "color-change contour."¹⁶⁶ An object, like a tomato, however, "looks red not only at the edges . . . but also in the center" because "the lack of activity in the center is interpreted as meaning that nothing has changed since the edge" and the brain accordingly assumes the field is red.¹⁶⁷ The brain does not see "absolute hues" but tries to guess at the color of an object in varying visual conditions.¹⁶⁸ Therefore, the second problematic tendency of using abstract colors as filterable components should be modified. Instead of filtering out patches of color as unprotected as the *Boisson* court did in performing a substantial similarity analysis, the courts should instead use a perceptual fact of color-change contour as the unit of filtration.

Gestalt theory has also uncovered certain contextual visual tendencies that hint at perceptual facts. They are, not surprisingly, contextual in nature, showing that the abstract elements of line, shapes, and color interact with one another using five principles. First, visual elements can create a sense of separateness.¹⁶⁹ Second, two components that share an abstract feature, in contrast to another feature nearby that lacks the shared characteristic, can create a feeling of similarity among the components that share a feature.¹⁷⁰ Third, elements that are in closer proximity can seem like they belong together.¹⁷¹ Fourth, subtle suggestion of enclosure can create a sense of a

¹⁶³ For example, participants report seeing a "horizontal yellow line" even though the line was green when it was horizontal because of disparate neural pathways of different speeds in perceiving orientation and color. *See Frank, supra* note 135.

¹⁶⁴ In contrast, "[t]he highly detailed, action-packed *The Rape of the Sabine Women* . . . seems relatively static, because you can see many details" all over the painting. LIVINGSTONE, *supra* note 153, at 87.

¹⁶⁵ *Id.* at 70.

¹⁶⁶ *Id.* at 72.

¹⁶⁷ *Id.* at 99.

¹⁶⁸ Wallisch, *supra* note 133. In fact, this makes us "bad at estimating absolute hue of objects." *Id.*

¹⁶⁹ Richard Zakia, *Photography and Visual Perception*, 27 J. AESTHETIC EDUC. 67, 71 (1993).

¹⁷⁰ *Id.*; *see Finkel & Sajda, supra* note 136, at 226–27.

¹⁷¹ Zakia, *supra* note 169, at 71; *see Finkel & Sajda, supra* note 136, at 226–27.

closed shape.¹⁷² Finally, certain overlapping features will seem continuous, and other overlapping features will seem disjointed and cut off.¹⁷³ Therefore, even unprotectible abstract components, depending on their movement across the composition, can alter the visual experience. A collection of these perceptual facts rather than abstract visual concepts should be the building-block units used to analyze visual works, just as words form the unit for creating meaning and expression in literary works.

* * *

From science, we can derive perceptual facts. Should we, however, trust the veracity of ever-evolving science? Given the elusive nature of substantial similarity, another scholar Kate Klonick has suggested taking lessons from cognitive psychology in designing a more objective substantial similarity test.¹⁷⁴ Rebecca Tushnet rightly cautions against the “limits of science.”¹⁷⁵ In so doing, she notes two problems: first, experimental data “may not reflect real-world experience,” and, second, science may not necessarily align with legal aims.¹⁷⁶ The first concern is valid, especially in an area like neuroscience that continues to rapidly evolve. There are nonetheless certain principles in the science of visual perception that enjoy decades of accumulated consensus. For example, thirty years of research has resulted in consensus that “contextual knowledge facilitates object recognition.”¹⁷⁷ And we have known for “at least 150 years” that the brain does not *see* visual components in isolation but guesses at them by harvesting retinal information.¹⁷⁸ Relying on these well-settled aspects of science allows us to draw from human wisdom, rather than build on sand. The next and final Part of this Note addresses the second concern.

In summary, themes in the science of visual perception demonstrate perceptual facts. Perceptual facts’ greatest contribution would be to provide

¹⁷² Zakia, *supra* note 169, at 71.

¹⁷³ *Id.*

¹⁷⁴ Kate Klonick, *Comparing Apples to Applejacks: Cognitive Science Concepts of Similarity Judgment and Derivative Works*, 60 J. COPYRIGHT SOC’Y U.S.A. 365, 385 (2013). Ms. Klonick advocates applying insight from cognitive psychology to design a better substantial similarity test, with respect to understanding the subjective nature of judging similarity.

¹⁷⁵ Rebecca Tushnet, *Gone in Sixty Milliseconds: Trademark Law and Cognitive Science*, 86 TEX. L. REV. 507, 508 (2008).

¹⁷⁶ *Id.*

¹⁷⁷ Bar, *supra* note 127, at 617; see Aude Oliva & Antonio Torralba, *The Role of Context in Object Recognition*, 11 TRENDS IN COGNITIVE SCI. 520, 520 (“There is a general consensus that objects appearing in a consistent or familiar background are detected more accurately and processed more quickly than objects appearing in an inconsistent scene.”).

¹⁷⁸ Wallisch, *supra* note 133.

a scientifically sound, visually based skeletal framework that the courts can use to describe visual works for substantial similarity comparisons. Instead of talking about literal descriptions of an image or applying absolute terms to visual components we do not actually see, factfinders could describe images using perceptual facts and compare how these facts were used by artists.

It is sometimes hard, however, to distinguish between perceptual facts and the expression of the artist. For example, an image that gives the illusion of depth may look magical in the way the three-dimensional world is mirrored on a two-dimensional surface. However, such illusions may nonetheless have an objective factual basis upon which a linear perspective is formed, rooted in the fact that light travels in a straight line. In other words, “some artistic techniques are based, not on the physical reality of these cues, but on the way the brain handles this information.”¹⁷⁹ These techniques therefore manifest perceptual facts. For example, the two different approaches discussed in Part I as to how an artist can cause a shape to look smaller demonstrate the idea of convergence in linear perspective and irradiating light shapes in juxtaposed contrasting values. How artists use perceptual facts as tools of their trade will be explored in the next Section.

B. *Visual Language and the Artists Who Manipulate “Perceptual Facts”*

Artists learn perceptual facts and use them as building blocks in creating art; perceptual facts are expressed through visual language in artistic works. Simply put, artists are masters of illusion, tricking us into thinking we see objective reality beyond a flat piece of paper. Visual language is a composite language. For example, there is a visual language involving lines contrasted with shapes.¹⁸⁰ Lines can denote variations in value, form, or perspective. Varying sizes of shapes can show proportional relationships. These shapes can be filled in with a tone using three variables: hue, value, and chroma.¹⁸¹ The hue is the identifiable color such as red or blue. The chroma, or intensity, describes the degree of saturation or strength of the hue. Finally, the value variable places the shape on a

¹⁷⁹ This exact quotation is available in MARGARET LIVINGSTONE, *VISION AND ART: THE BIOLOGY OF SEEING* 101 (2002). The author describes the same idea in the updated 2014 version of her book. See LIVINGSTONE, *supra* note 153, at 176.

¹⁸⁰ The opposing forces in art include “straight lines and curves, light and dark, warm and cold colour.” HAROLD SPEED, *THE PRACTICE & SCIENCE OF DRAWING* 219 (4th ed. 1922).

¹⁸¹ This is the system of colors developed by A.H. Munsell and widely used by artists although it is not the only way to classify color. See generally A.H. MUNSELL, *A COLOR NOTATION* (2012) (articulating the hue–value–chroma color classification on the Munsell sphere).

light–dark spectrum.¹⁸² Changing any one variable affects the other two.¹⁸³ And the relationship between any given component line, shape, or its placement on the picture affects the overall composition.¹⁸⁴ Although it might take great deal of effort to grasp these visual concepts and to skillfully manipulate them, these techniques that ultimately mirror perceptual facts should not be a part of the artist’s copyrighted expression. If that were the case, it would be like compensating authors not for the particular combination of words, but for the concept of alliteration and rhyme.

Ultimately, the protectible artistic expression sums up to a composition or a combination of perceptual facts to create a holistic visual impression. Composition can be seen as what holds disparate visual languages together, or more poetically put: “Composition is the mortar of the wall, as drawing and color are its rocks of defence. Without it the stones are of little value, and are but separate integrals having no unity.”¹⁸⁵ Artists should be skilled in multiple visual languages described in the above paragraph when composing a picture. This end goal of coherent composition can be defined as

a system of design In composing a drawing, we manipulate the fundamental graphic elements of line, shape, and tone into figure-ground patterns that are coherent and which convey visual information. Through the organization and relationship of these elements, we define both the content and the context of [an artwork].¹⁸⁶

Composition contains both the idiosyncratic expression of the artist and the manifestation of fundamental visual concepts, as demonstrated by Figure 2 below.¹⁸⁷ For example, an artist can use lines on a page to

¹⁸² SPEED, *supra* note 180, at 121–22.

¹⁸³ *Id.* at 127 (There is a “power possessed by lines, tones, and colours, by their ordering and arrangement, to affect us, somewhat as different notes and combinations of sound do in music.”).

¹⁸⁴ *See id.*

¹⁸⁵ HENRY RANKIN POORE, PICTORIAL COMPOSITION AND THE CRITICAL JUDGMENT OF PICTURES 18–19 (1903).

¹⁸⁶ FRANCIS D.K. CHING WITH STEVEN P. JUROSZEK, DESIGN DRAWING 341 (2d ed. 2010).

¹⁸⁷ The figure drawings are composed of overlapping visual languages. The schematic on the far left plots the tonal relationships of the major masses in the figure drawing. This map of the relative tonal values is composed of various perceptual facts from extreme tonal contrast on the top left (white of the paper adjacent to the darkest shade of the medium) to the juxtaposition of shapes in similar shades of tone on the lower right (the shadow of the right leg adjacent to the similar gray of the background). The two schematics on the far right isolate other visual languages and their corresponding perceptual facts such as shapes, linear perspective, and skeletal-muscular anatomy. The artist has weaved together myriad perceptual facts through an infinite number of decisions to arrive at the final compositions for the two figure drawings. Note that these drawings have been created to teach art students; composing a finished drawing by the artist would also normally involve other myriad and complex decisions such as where to place and scale the figure on a page. Michael Grimaldi, *Life*

represent a contour.¹⁸⁸ Whether or not this line defines a contour where “the surface of the face turns sharply away from the lighting direction” or “where there is a sharp contrast such as at the hairline,” the artist is representing a perceptual fact about how edges and contours are detected and processed visually.¹⁸⁹ An artist, therefore, is “compelled to become scientific because they have embraced a profession which includes science.”¹⁹⁰

FIGURE 2: BUILDING VISUAL COMPOSITION WITH PERCEPTUAL FACTS



The ability to manipulate perceptual facts to compose an image is not innate but learned.¹⁹¹ Formal art training is learning to see (acquiring ability to see perceptual facts) and then learning to manipulate perceptual facts. Traditionally, in the days of old masters, young artists trained in “ateliers” where they worked as apprentices while acquiring the requisite artistic skills by imitating their teachers.¹⁹² Artistic training looks different now, done more commonly through degree programs than in apprenticeships, but

Drawing Demonstration Drawings (on file with artist), reproduced with permission of the copyright owner.

¹⁸⁸ See LIVINGSTONE, *supra* note 153, at 54.

¹⁸⁹ BRUCE ET AL., *supra* note 94, at 104.

¹⁹⁰ POORE, *supra* note 185, at 15.

¹⁹¹ See LIVINGSTONE, *supra* note 153, at 149.

¹⁹² ALEXANDER LINDEY, *PLAGIARISM AND ORIGINALITY* 169 (1952).

nonetheless still requires learning to see and to express visual concepts relationally.¹⁹³

Visual processing occurs rapidly, and we are not good at seeing distinct visual elements separately. Therefore, artistic training is essentially learning to see. For example, to “shad[e] effectively, artists . . . must learn to evaluate luminance independent of color,” a very difficult task when “it is impossible to consciously see only the luminance version of a scene or painting.”¹⁹⁴ To aid the acquisition of artistic competence, some artists intentionally try to understand visual perception principles, i.e., perceptual facts, so that they can manipulate them for desired effect.¹⁹⁵

Once a novice artist can see, the artist must then learn to express visual relationships. There are practical constraints to mimicking what they see. For example, currently available pigments form a limited range that will not allow one-to-one mapping of real-world luminance onto a canvas.¹⁹⁶ Consequently, artists must use the tools they have—including their understanding of perceptual facts—to create the type of illusions that triggers an experience of luminescence. A “skilled” artist can use an “identical mix of paint[]” in a different context to create the illusion of “very different colors.”¹⁹⁷ Although the adept application of this and other artistic techniques commands praise, it is also important to remember that a *process* based on perceptual *facts* falls outside copyright protection, as all facts do. The courts often conflate artistic process and expression.¹⁹⁸ A better understanding of the artistic process would keep us from erroneously protecting the process rather than the resulting expression.

III. A VISUAL APPROACH TO SUBSTANTIAL SIMILARITY ANALYSIS

As explained in Part II, the science of visual perception implies perceptual facts, the techniques artists can use to create illusions in accordance with the way we see. In other words, science can help determine the boundary between unprotectible perceptual facts and protectible expression by inviting us to filter out aspects of the image that

¹⁹³ Artists who try to represent visual experiences on a two-dimensional surface must learn to “not trust[] their . . . eyes.” Ingrid Wickelgren, *An Artist Reveals How He Tricks the Eyes*, SCI. AM. (Dec. 13, 2011), <http://blogs.scientificamerican.com/streams-of-consciousness/an-artist-reveals-how-he-tricks-the-eyes/> [<https://perma.cc/9YLY-ZUGT>].

¹⁹⁴ LIVINGSTONE, *supra* note 153, at 149.

¹⁹⁵ Wickelgren, *supra* note 193.

¹⁹⁶ LIVINGSTONE, *supra* note 153, at 150.

¹⁹⁷ Wickelgren, *supra* note 193.

¹⁹⁸ See, e.g., *Rogers v. Koons*, 960 F.2d 301, 304 (2d Cir. 1992) (suggesting that factors such as “years of artistic development,” selection of “light” and “location,” and other “creative judgments concerning technical matters” are protectible expression).

reflect visual processing.¹⁹⁹ We filter out perceptual facts because techniques involved in crafting a creative expression, whether it be stock characters in literature or artistic techniques derived from visual perception principles, do not themselves receive copyright protection.²⁰⁰ Techniques are facts that lie squarely in the idea side of the idea-expression divide and should be recognized as such. Putting perceptual facts on the idea side while placing the combination of perceptual facts on the protectible expression side results in a truly visual substantial similarity analysis that provides the courts with a rigorous framework for ensuring both appropriate filtration of ideas and meaningful protection of expression. In this visual substantial similarity test for PGS works, the filtration step would involve removing perceptual facts or the artistic techniques used to express a visual unit, and the comparison step would involve comparing the two works' use of the perceptual facts in creating a total concept and feel of aesthetically creative statements.

A. The Problem Revisited: Are the Courts Ready for a Visual Solution?

To review, courts tend to rely on the following two problematic tendencies: (1) the literal descriptive approach and (2) the myopic visual approach, which are both inconsistent from the way we see. These problematic tendencies undermine the goal of the total concept and feel test.²⁰¹

Legal academics have suggested nonvisual solutions, but unfortunately none have been entirely satisfying. For example, Jeanne Fromer's scheme involves carefully translating visual works into verbal description.²⁰² This added step, however, does not eliminate the danger of extending copyright to subject matters rather than to visual expression, i.e., literal, descriptive approach. Rebecca Tushnet, even hinted at abandoning altogether, for visual works, the substantial similarity test, which she laments "makes impossible and self-contradictory demands on factfinders."²⁰³ Her proposal implies that only instances of near-exact copying merit infringement liability for infringing visual work's

¹⁹⁹ Lemley, *supra* note 48, at 741 ("The line between idea and expression, and the corresponding lines separating facts, functional elements, and the like from copyrightable expression, are extraordinarily difficult lines to draw.").

²⁰⁰ *Cf. Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 122 (2d Cir. 1930) (holding the similarities between the defendant's and the plaintiff's plot at the level of "stock figures" were necessary "stage properties" in a given genre such that the similarity could not be deemed infringement of protectible expression).

²⁰¹ See *supra* Section I.C.1.

²⁰² Jeanne C. Fromer, *Claiming Intellectual Property*, 76 U. CHI. L. REV. 719, 781-94 (2009).

²⁰³ Tushnet, *supra* note 20, at 687-88.

reproduction right.²⁰⁴ The problem with this proposal, however, is that liability might adhere for exact copying with probative similarity of possibly unprotectible expression while the copying of visual expression might be permitted as long as methods differ. This seems, unfortunately, to undermine the goal of granting copyright to creative visual expressions.

Although both the Second and Ninth Circuits fall short of coming up with meaningful visual filters for the abstraction step of the substantial similarity analysis, recent cases demonstrate that the courts are willing to employ a distinctly visual analysis for PGS works. For example, the latest articulation of the PGS substantial similarity test in the Second Circuit is indeed doctrinally sound despite ultimately misapplying the total concept and feel test.²⁰⁵ In *Tufenkian Import/Export Ventures v. Einstein Moomjy, Inc.*, Judge Calabresi recognized the importance of filtering out “elemental raw materials” for creative expression.²⁰⁶ Additionally, he stated that liability attaches only when the defendant has “parrot[ed] properties” that are a part of the “numerous aesthetic decisions embodied in the plaintiff’s work of art.”²⁰⁷ Indeed, this attempt to protect the aesthetic whole has animated the Second Circuit’s total concept and feel test.²⁰⁸

The problem has not been the total concept and feel test as conceptualized, but the application of this test to particular works. Judge Calabresi correctly stated that “infringement analysis is not *simply* a matter of ascertaining similarity between components viewed in isolation,” but he ultimately lacked a clear framework for conducting a holistic visual analysis.²⁰⁹ He ended up resorting to doing precisely what he said he would not do: listing abstract components, such as “colors” and “the catalogue of standard geometric forms,” in isolation as a basis for comparing allegedly infringing and allegedly infringed works.²¹⁰

The Ninth Circuit also shows signs of an inchoate visual test. Although the court ultimately used a feature-centric, literal comparison of illustrations in children’s books, the court correctly articulated that artistic decisions such as the “arrangement of the representation[] may be considered in determining objective similarity in appearance” of visual

²⁰⁴ *Id.* at 739 (noting that any works that are “not exact copies . . . would not be subject to the reproduction right” and probably fall outside copyright law).

²⁰⁵ *Tufenkian Imp./Exp. Ventures v. Einstein Moomjy, Inc.*, 338 F.3d 127 (2d Cir. 2003).

²⁰⁶ *Id.* at 132 (internal quotation marks omitted). Some examples of elemental raw materials are “colors, letters, descriptive facts, and the catalogue of standard geometric forms.” *Id.*

²⁰⁷ *Id.* at 134.

²⁰⁸ *Id.* at 132–33.

²⁰⁹ *Id.* at 132.

²¹⁰ *Id.* at 132, 134.

works.²¹¹ However, the court seemed overwhelmed at the prospect of crafting a list of visual components to consider; they lacked the perceptual facts as the proper visual unit of analysis.²¹² The court tried to use visual concepts such as shape (“five-pointed” star) and color (“yellowish”) for comparison.²¹³ Although the attempt is admirable, these abstract visual components should not be used as analytical comparison units: a shape or color in isolation is not protectible expression. Without a clear analytical framework for comparing visual works, the court resorted to a literal descriptive comparison.²¹⁴

B. A Visual Solution to Substantial Similarity Analysis: Perceptual Facts as Analytical Unit for Filtering and Comparison

This Note proposes construing creative images not as a compilation of identifiable visual objects or abstract visual concepts, but as a compilation of perceptual facts. This new visual framework for substantial similarity analysis of PGS works involves (1) filtering out perceptual facts or the techniques artists use to manipulate them and (2) comparing visual works in terms of how perceptual facts are combined to holistically create an aesthetic, visual composition.

The second step involves seeing how a nexus of perceptual facts, as used and manifested on the pictorial plane, culminates in a holistic visual composition. Although this is a novel approach for PGS works, it is arguably how the courts are already analyzing literary plots. For example, the courts have recognized and defined protectible literary expression as the “concrete elements that make up the total sequence of events and the relationships between major characters.”²¹⁵ Similarly, it is entirely plausible then to see protectible visual expression as the concrete elements, i.e., perceptual facts, that make up the total visual composition of lines and shapes and the relationship between value, hue, and chroma. Just as in the literary context, an author may “string[] a significant number of unprotectible elements” into a protectible expression, a visual artist should be allowed to weave together a number of unprotectible perceptual facts into a protectible artwork.²¹⁶ Equipped with a truly visual and discernable

²¹¹ *Cavalier v. Random House, Inc.*, 297 F.3d 815, 826 (9th Cir. 2002).

²¹² *Id.* (noting that the court will “not attempt here to provide an exhaustive list of relevant factors for evaluating art work”).

²¹³ *Id.* at 823, 827. However, this list is mixed with other feature-oriented literal descriptions (e.g., that the stars are “smiling”). *Id.*

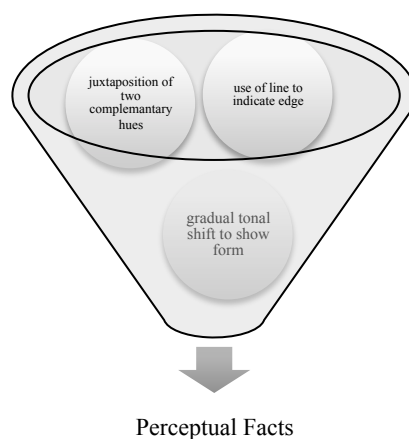
²¹⁴ *See supra* Section I.C.2.

²¹⁵ *Shaw v. Lindheim*, 919 F.2d 1353, 1362 (9th Cir. 1990) (citation and internal quotation marks omitted).

²¹⁶ *Metcalf v. Bochco*, 294 F.3d 1070, 1074 (9th Cir. 2002).

unit of analysis—perceptual facts—the courts should cast aside the current, erroneous literal descriptive and myopic visual tendencies, and embrace a truly meaningful visual test.

FIGURE 3: PERCEPTUAL FACTS



To summarize the proposed visual substantial similarity test, perceptual facts are first filtered out, and how they are combined to form a visual composition is then compared for substantial similarity between the visual works. Perceptual facts to be sieved would include the use of a line to represent an edge, juxtaposition of two complementary hues, and gradual tonal shift to create an illusion of form.

What would this visual substantial similarity test look like? When applied to the elaborate alphabet quilts in *Boisson*, we end up with a result that differs from the court’s holding. Recall that the court found “enormous amount of sameness” between the two quilts noting that “[i]n particular, the overwhelming similarities in color choices lean toward a finding of infringement.”²¹⁷ To arrive at the conclusion that the two quilts were substantially similar, the court used abstract and isolated visual concepts such as a “green square” or a “red square” as units of analysis.²¹⁸

We saw, however, in Part II that a colored shape is never perceived in isolation; the brain simply does not have a mechanism for seeing an absolute color or an absolute shape. A unit of analysis that reflects the nature of human perception would be a “green square juxtaposed to a red square” and the perceptual fact that the artist used is the juxtaposition of

²¹⁷ *Boisson v. Banian, Ltd.*, 273 F.3d 262, 274 (2d Cir. 2001).

²¹⁸ See *supra* Section I.C.1.

complementary colors. Since perceptual facts are techniques derived from human perception, it would be, like all facts, filtered out. However, perceptual facts would still work fine as viable and plausible units of comparison because the way in which perceptual facts are combined and used make up the protectible visual expression. In other words, like the notes in a musical composition, perceptual facts combine to form the pictorial composition.

Once we start to visually analyze the images using perceptual facts, we can “see” that the defendant’s quilts in *Boisson* are *not* substantially similar to the plaintiff’s quilts. First, in the filtration step, the shape of the letters, i.e., the fonts, and the colored grid would be filtered out. The concept of a colored square containing two contrasting colors is a perceptual fact. And finally, at the most general level of abstraction, we would filter out the idea of an alphabet quilt. The more discerning observers can then analyze how the overall color palette used in the two works significantly differ, even if some of the same hues were used. On the left, the plaintiff used a low chroma palette with less value contrast between the tone of the letter and the square. On the right, the defendant used more intense colors and greater value contrast between the tone of the letter and the square. Though a single color or juxtaposition of colors to create a certain visual impression is a perceptual fact, the holistic selection of a color palette across the picture plane is a combination of perceptual facts that results in a creative expression.

Furthermore, the two artists used different design composition. The plaintiff relied less on tonal or hue contrasts than the defendant did, which means that the defendant’s work has a greater sense of foreground–background distinction. Given that the defendant used a different overall color scheme and arranged the range of these colors on a palette differently across the picture surface, the factfinder should conclude that the defendant’s quilt is *not* substantially similar to the plaintiff’s quilt—a result that contradicts what the court held regarding this pair of quilts.

Those who support strong copyright protection might balk at filtering out perceptual facts because what is filtered out is ultimately unusable in proving actionable copying. Section III.C explores a response to this objection more extensively, but, in short, copyright’s idea–expression dichotomy calls for filtering facts. Perceptual facts, though in some sense unlike the fact types more familiar to us (e.g., sixty seconds in a minute), are nonetheless facts. These facts detail the techniques about how the eye and the brain perceive images.

The primary value of this visual test, however, is not simply demonstrating how some PGS cases might have come out differently or its

forward-looking predictive power when applied to future cases. Rather, this test's greater potential contribution would be to provide the courts with a visual language that can consistently be applied, thereby redeeming the total concept and feel test for PGS works.

Perhaps justly, courts have been ambivalent about the total concept and feel test.²¹⁹ On the one hand, the test is doctrinally sound.²²⁰ The test, at least in theory, correctly protects visual composition in a way that a classic abstraction test cannot.²²¹ On the other hand, when actually applied to comparison of PGS works, the test feels flimsy. Looking at "overall feel or gestalt" sounds like there is "a sort of magic" to the process, which is not at all rigorous.²²² The paradigmatic example of this problem appears in *Roth Greeting Cards v. United Card Co.*, where the court found substantial similarity between two greetings cards despite the fact that the plaintiff's allegedly copied work was a simple drawing composed of unprotectible subject matters and trite sayings.²²³ Rebecca Tushnet remarked, expressing the sentiment shared by many judges and copyright scholars, that "*Roth* is misguided . . . *Roth* illustrates that the gestalt approach expands protection unpredictably."²²⁴ But it is important to remember that the problem with the total concept and feel test is not the theory behind it but the lack of a truly visual unit for performing a dissection of PGS works. Using perceptual facts as analytical units can help redeem the total concept and feel test, converting it into a rigorous test that protects compilation of perceptual facts without protecting those techniques themselves.²²⁵

The difficulties in maneuvering through the current test is exemplified in *Steinberg v. Columbia Pictures Industries, Inc.*, where the court considered the similarities between a movie and magazine poster.²²⁶ In *Steinberg*, the court "spent a substantial portion of its time discussing the similarities of unprotectible elements, such as stylized font used in the title" and ultimately conflated actual and actionable copying to conclude

²¹⁹ See, e.g., *Tufenkian Imp./Exp. Ventures v. Einstein Moomjy, Inc.*, 338 F.3d 127, 134 (2d Cir. 2003) ("Some commentators have worried that the 'total concept and feel' standard may 'invite[] an abdication of analysis,' because 'feel' can seem a 'wholly amorphous referent.'" (citation omitted)).

²²⁰ See PATRY, *supra* note 12, § 9:73 ("If applied correctly, the more discerning observer test goes a long way toward resolving the inherent tensions in the total-concept-and-feel test.").

²²¹ See *supra* Section I.C.1.

²²² Tushnet, *supra* note 20, at 718.

²²³ 429 F.2d 1106 (9th Cir. 1970).

²²⁴ Tushnet, *supra* note 20, at 719.

²²⁵ 17 U.S.C. § 103(a) (2012) ("The subject matter of copyright . . . includes compilations . . .").

²²⁶ 663 F. Supp. 706 (S.D.N.Y. 1987). For a side-by-side comparison of the magazine cover and movie poster, see *Steinberg v. Columbia Pictures Industries, Inc.*, WIKIPEDIA, https://en.wikipedia.org/wiki/Steinberg_v._Columbia_Pictures_Industries,_Inc. [<https://perma.cc/R7WS-T4Z7>].

substantial similarity between the two works based on overlap of many details.²²⁷ This illustrates that in the absence of a visual analytical language, the courts can make serious doctrinal errors.

Providing the courts with a visual analytic unit to perform a truly visual substantial similarity test has inherent and important value even if it does not change the case's outcome. For example, the *Steinberg* court correctly held that the defendant's movie poster is substantially similar to the plaintiff's New Yorker Magazine cover.²²⁸ Despite this correct result, the court's reasoning was replete with both of the problematic tendencies identified in Section I.C. First, the court used a literal descriptive analysis to the extreme, cataloging then comparing identifiable objects that appear in both images such as: "approximately four city blocks," "water towers," "the red sign above a parking lot, and . . . many of the individual buildings."²²⁹ The court also committed the erroneous myopic visual analysis by comparing isolated visual concepts, such as linear perspective ("a bird's eye view"), colored shapes ("narrow band of blue wash" and "a band of primary red"), and font ("the childlike, spiky block print").²³⁰

As the *Steinberg* court grasped for a meaningful visual analysis, it also committed two additional doctrinal errors. First, the holding's rationale is simply ad hoc. They used vague concepts such as "sketchy, whimsical style" and "New York-ish structures" as a basis for copyright protection.²³¹ It cannot be true that copyright protection is rooted in such fanciful and arbitrary concepts. Second, the court conflates probative and substantial similarity when it concluded that "[t]he close similarity can be explained only by the defendant . . . having copied the plaintiff's work."²³² While the fact that the defendant "meticulously imitated" the plaintiff's cover proves actual copying, the court should not collapse this notion onto the concept of actionable copying.²³³

As previously mentioned, the court reached the correct result despite its erroneous reasoning; even under the proposed test, these two works would be deemed substantially similar.²³⁴ For example, although the

²²⁷ Lemley, *supra* note 48, at 721.

²²⁸ *Steinberg v. Columbia Pictures Indus.*, 663 F. Supp. 706, 709 (S.D.N.Y. 1987).

²²⁹ *Id.* at 712–13.

²³⁰ *Id.* Although theoretically some lettering art can be creative enough to be protectible expression, the Copyright Office declared that "lettering" and "mere variations of typographic ornamentation" are "not subject to copyright." 37 C.F.R. § 202.1(a) (2016).

²³¹ *Steinberg*, 663 F. Supp. at 712–13.

²³² *Id.* at 713.

²³³ See discussion *supra* Section I.A.

²³⁴ Of course *substantial* similarity does not require an exact match. Even though the two images have many differences—one prominent example being the three figures in the foreground of the image

perceptual facts such as converging lines are filtered out, both artworks use two converging lines to create holistically similar visual composition using similar color palettes. The two works also share similar spatial design of the page consisting of three vertical rectangles alternating in warm-cool-warm tones indicates substantial similarity in the total concept and feel of the visual expressions. Note that the concentrated use of warm tones to visually separate out a top rectangular space in itself is an unprotectible perceptual fact. Otherwise, the works in the *Steinberg* case would be substantially similar to a Rothko painting containing an orange-red rectangle at the top. However, the two works are substantially similar because they overlap in the cumulative mix of the perceptual facts used to create a compositional design. The use of predominantly warm colors in the top third of the landscape creates a cityscape that jarringly shifts from a bird-eye view to a flat front head-on view. This decision to mix a tonal contrast with perspective shift creates in the viewer a sense of a vertical walling that cuts short a visual journey across the world. What results then is a protectible picture composition made up of a particular mix of perceptual facts.

A comparison to the more doctrinally well-established substantial similarity test for literary works confirms the soundness and viability of this truly visual substantial similarity test. The distinction in literary works between uncopyrightable stock characters and copyrightable plot characters nicely demonstrates the distinction between a technique contained in perceptual facts and expression resulting from the combination of perceptual facts. In analyzing the copyright of plots, “stereotyped” or stock characters are “the products not of the creative imagination but of simple observation of the human comedy.”²³⁵

Similarly, perceptual facts in visual works are not themselves the product of creative imagination, but artistic technique derived from the study of human visual perception. In *Gaiman*, the Seventh Circuit explained that a comic artist was able to create a copyrightable character because “what [the character] knows and says, his name, and his . . . facial features combine to create a distinctive character.”²³⁶ Applied to the visual works in *Steinberg*, the convergence of two lines that create the illusion of depth is a perceptual fact, one that would be expected in creating a cityscape and therefore—much like stock characters of a particular literary

on the right—as long as a significant amount of the plaintiff’s expression is taken, actionable copying has occurred.

²³⁵ See *Gaiman v. McFarlane*, 360 F.3d 644, 660 (7th Cir. 2004).

²³⁶ *Id.* Therefore a “drunken old bum” is but a character with “a specific name and a specific appearance” and so is not a stock character. *Id.*

genre—is not copyrightable. Similarly, the technique of creating an illusion of a generic road receding into space using narrowing, converging lines is an unprotectible perceptual fact. However, the following visual decisions in the plaintiff's work based on perceptual facts are indeed protectible: orienting the road of a particular width and length in the middle of the page, bringing the road halfway up the cityscape to draw the eye from the bottom to the top of the page to create the illusion of looking far out into the world, and deciding to make the road a different hue but the same value²³⁷ to create a map-like effect. In sum, perceptual facts must be combined into an artistic composition of a picture to be visual expression eligible for copyright protection.

* * *

The concern with any proposed test, of course, is whether it can be implemented.²³⁸ Allowing expert testimony at the substantial similarity step, as we do in music copyright infringement cases, would facilitate the application of the visual substantial similarity test this Note proposes.²³⁹

Factfinders have trouble with visual analysis.²⁴⁰ Perhaps judges understandably feel more in control with textual comparisons where they are aided by “many standardized tools to interpret text, not least of all the rules of statutory and contractual construction.”²⁴¹ For example, even Judge Learned Hand, who called the boundary between idea and expression “inherently arbitrary,” seemed right at home engaging in a detailed literary analysis of plays.²⁴² To make matters worse, factfinders for substantial similarity analysis may be influenced by other information they receive, such as information related to how hard the artist labored.²⁴³

Additionally, as explored in Part II, visual training is required before visual dissection can be done objectively and accurately. Indeed without experts, “judges and juries are more likely to find infringement in dubious

²³⁷ Value, as you recall in the discussion from Section II.B, is the degree of darkness of a given patch of color. If you completely close one eye and squint the other eye down as you look at the plaintiff's then the defendant's work, you will see that the road blends into the buildings because the road and the buildings are in fact similar in their light–dark value.

²³⁸ Tushnet, *supra* note 20, at 733.

²³⁹ Of course there are challenges with using experts too, but the topic falls outside the scope of this Note.

²⁴⁰ Tushnet, *supra* note 20, at 734.

²⁴¹ *Id.* at 702.

²⁴² *Id.*

²⁴³ A study, for example, shows that factfinders “are sensitive to additional information about the two works and the creators who produced them” when making substantial similarity determinations. Shyamkrishna Balganesh, Irina D. Manta & Tess Wilkinson-Ryan, *Judging Similarity*, 100 IOWA L. REV. 267, 271 (2014).

circumstances, because they [are not] properly educated on the difference between protectable and unprotectable elements.”²⁴⁴ Therefore, experts should be used at the abstraction and filtration stage of visual substantial similarity analysis.²⁴⁵ This might increase litigation costs. However, the use of experts in copyright cases is already common. For example, in *Newton v. Diamond*, a Ninth Circuit musical composition copyright infringement case, expert testimony helped show that a portion of a musical composition that appears in both works “is merely a common, trite, and generic three-note sequence” that is “a common building block tool” that composers often use.²⁴⁶ If experts can help guide the court in isolating functional musical units of composition, experts can aid the court in discerning visual perceptual units of composition.²⁴⁷ Some circuits are already open to using experts for PGS works.²⁴⁸ We should now make it the norm.

C. Visual Substantial Similarity Analysis and Copyright Policy

The substantial similarity analysis is what allows us to condemn only actionable infringement. If this test is meaningless, then we are either underdetering or overdetering creative expression. The courts are thus charged with “an important responsibility in copyright cases to monitor the outer limits within which juries may determine reasonably disputed issues of fact,” so as not to “enlarge (or diminish) the scope of statutory protection enjoyed by a copyright proprietor.”²⁴⁹ Therefore, new substantial similarity standards should further copyright’s policy of filtering out facts and processes while protecting original visual expression.

This, of course, does not necessarily mean that the visual substantial similarity test has to be dictated by science if the science deviates from values inherent to a legal test.²⁵⁰ However, the test proposed in this Note is aligned with the goals of copyright protection, filtering out unprotectible

²⁴⁴ Lemley, *supra* note 48, at 739.

²⁴⁵ See Eric Rogers, *Substantially Unfair: An Empirical Examination of Copyright Substantial Similarity Analysis Among the Federal Circuits*, 2013 MICH. ST. L. REV. 893, 917 (stating that the introduction of expert testimony into substantial similarity analysis is a “popular suggestion”).

²⁴⁶ 388 F.3d 1189, 1196 (9th Cir. 2004) (internal quotation marks omitted).

²⁴⁷ See, e.g., *Williams v. Bridgeport Music, Inc.*, 2015 WL 4479500 (C.D. Cal. 2015) (discussing a substantial similarity analysis that resulted in a battle of experts).

²⁴⁸ See, e.g., *Stromback v. New Line Cinema*, 384 F.3d 283, 293–95 (6th Cir. 2004) (“[E]xpert testimony would be necessary to determine whether certain elements of such a latch should be excluded from the substantial similarity analysis.” (citation omitted)).

²⁴⁹ *Warner Bros. v. Am. Broad. Cos.*, 720 F.2d 231, 245 (2d Cir. 1983). Indeed, Judge Learned Hand also said that the court has to “decide how much” is enough for copyrightable expression; even though the court is “as aware as any one that the line, wherever it is drawn, will seem arbitrary, [it] is no excuse for not drawing it.” *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 122 (2d Cir. 1930).

²⁵⁰ Tushnet, *supra* note 175, at 510.

visual principles while simultaneously granting copyright protection to visual expression.

In fact, this test clarifies the nuanced divide between idea and expression by showing that the artistic techniques themselves do not receive any copyright protection. First, filtering out perceptual facts shows that copyright protection is not for one's labor. Even recently, without a rigorous visual test, courts have erroneously protected "inventive efforts" and techniques such as "posing the subjects, lighting, angle, selection of film and camera" in addition to protectible "evo[cation of] the desired expression."²⁵¹ However, "[s]weat of the brow" is not the touchstone of copyright" because copyright protection "derives from the features of the work itself, not the effort that goes into it."²⁵²

Second, perceptual facts, like all techniques, should fall outside copyright protection because they are unprotectible processes. Therefore, analyzing visual works in terms of how the combination of perceptual facts results in visual expression would only protect original creative expression while leaving open to the public the raw material for creation. The Copyright Code explicitly draws the line between unprotectible "process" and protectible "original work of authorship."²⁵³ This idea has already been built into the copyright infringement analysis. For example, in analyzing literary works, scenes a faire or the expression that "flow[s] naturally from generic plot-lines" are not deemed protectible expression.²⁵⁴ There is no reason why perceptual facts inherent in expressing visual ideas should be treated differently and become candidates for copyright protection.

To illustrate the point that a technique–fact cannot be copyrighted—no matter how much labor went into obtaining it—Alan Durham gives the following helpful example: even if the population of New Jersey was determined by personally knocking on every door and counting every inhabitant, only the "fact in distinctive rhetoric," but not the fact itself (i.e., the population), is copyrightable expression.²⁵⁵ Similarly, although an artist spends many years in apprenticeship learning perceptual facts and how to

²⁵¹ Rogers v. Koons, 960 F.2d 301, 307 (2d Cir. 1992).

²⁵² Mannion v. Coors Brewing Co., 377 F. Supp. 2d 444, 451 (S.D.N.Y. 2005) (footnote omitted).

²⁵³ 17 U.S.C. § 102(b) (2012) ("In no case does copyright protection for an original work of authorship extend to any idea, procedure, *process* . . . regardless of the form in which it is described, explained, illustrated, or embodied in such work." (emphasis added)); cf. Baker v. Selden, 101 U.S. 99 (1879) (holding that processes are not copyrightable because they would be protected, if at all, through a patent rather than a copyright).

²⁵⁴ Funky Films, Inc. v. Time Warner Entm't Co., 462 F.3d 1072, 1077 (9th Cir. 2006).

²⁵⁵ Alan L. Durham, *Speaking of the World: Fact, Opinion, and the Originality Standard of Copyright*, in INTELLECTUAL PROPERTY PROTECTION OF FACT-BASED WORKS: COPYRIGHT AND ITS ALTERNATIVES 133, 133–34 (Robert F. Brauneis ed., 2009) (footnotes omitted).

manipulate them, and even if an artist through individual ingenuity discovers them, the fact of how human vision gathers contrasting relationships in the visual field to form an image cannot be copyrighted.

Craftsmanship, therefore, is not a copyrightable basis for substantial similarity analysis.²⁵⁶ And neither is expertise.²⁵⁷ Instead, the manifested unique combinations of perceptual facts are copyrightable expression. This expression, of course, need not be brilliant—a “faint spark” is sufficient to meet the low threshold for copyrightable originality.²⁵⁸ This maintains the bargain the law has given authors: copyright, exclusive monopolistic protection, is extended for the layer of expression added rather than underlying facts.

Filtering out perceptual facts, however, does not necessarily mean less copyright protection for artistic works. Current tests leave open the possibility of abstracting and filtering out all aspects of a visual work. Therefore, a defendant can press the courts to find most of the work, if not the entire work, unprotectible.²⁵⁹ One of the steps is to “dissect each element into the smallest parts possible,” a clever manipulation that is possible under the current unrigorous set of substantial similarity tests.²⁶⁰ Under a more rigorous visual test with a standard opening size for the substantial similarity sieve, it is possible to simultaneously increase meaningful protection and practice principled filtering.

CONCLUSION

This Note identified the two problematic tendencies that result in the substantial similarity test for PGS works. This Note then turned to the science of vision and artistic practices to derive analytical units called perceptual facts. Finally, this Note proposed a truly visual substantial similarity test that uses the perceptual facts as an analytical unit. This test would allow for appropriate filtering of perceptual facts that artists use to compose pictures. At the same time, the manipulation of these visual facts in composing the image, i.e., the visual expression, receives meaningful copyright protection. The greatest strength of the test is that it allows the

²⁵⁶ Cf. *Yurman Studio Inc., v. Castaneda*, 591 F. Supp. 2d 471, 497 (S.D.N.Y. 2008) (“Although an observer . . . might notice that the quality of craftsmanship . . . is lower . . . that difference alone would not allow a reasonable juror to find” a lack of substantial similarity.).

²⁵⁷ Cf. *Mannion v. Coors Brewing Co.*, 377 F. Supp. 2d 444, 451 (S.D.N.Y. 2005) (noting that “a great deal of effort and expertise” into creating a reproduction does not make it protectible expression).

²⁵⁸ Durham, *supra* note 255, at 135.

²⁵⁹ See, e.g., Rachel Wallace, *Framing the Issue: Avoiding a Substantial Similarity Finding in Reproduced Visual Art*, 10 WASH. J.L. TECH & ARTS 89 (2014) (a manual for defendants of copyright infringement for images that contained “practice pointers” aimed at maximizing filtration).

²⁶⁰ *Id.* at 108.

courts and copyright scholars to figure out the exact contour of the divide between perceptual facts and visual expression, allowing for a proper application of the total concept and feel test. The proposed test incorporates both an appropriate filtration and comparison to delineate the scope of a copyright protection that advances copyright's dual policy goals: incentivize creation and promote free dissemination of unprotectible ideas and facts.

