Judging Similarity

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Copyright law’s requirement of substantial similarity requires a court to satisfy itself that a defendant’s copying, even when shown to exist as a factual matter, is quantitatively and qualitatively enough to render it actionable as infringement. By the time a jury reaches the question of substantial similarity, however, the court has usually heard and analyzed a good deal of evidence: about the plaintiff, the defendant, the creativity involved, the process through which the work was created, the reasons for which the work was produced, the defendant’s own creative efforts and behavior, and on occasion the market effects of the defendant’s copying. Despite having this large body of evidence before it, the jury is required to answer the question of substantial similarity through a mere comparison of the two works. In this Essay, we report results from a series of experiments in which subjects were presented with a pair of images and asked to assess the similarity between the two works using the criteria ordinarily given to fact-finders for the substantial similarity determination. When provided with additional information about the simple fact of copying, or about the amount of creative effort that went into the protected work, we saw an appreciable variation (i.e., upwards) in subjects’ assessments of similarity between the works, suggesting that fact-finders are sensitive to additional information about the two works and the creators who produced them, contrary to what current law assumes. Our study suggests that the availability and salience of such additional information actively distorts fact-finders' assessments of the similarity between the two works, calling into question the purported objectivity of the substantial similarity requirement as a whole.

INTRODUCTION

Fair use is commonly described as copyright law’s “most troublesome” doctrine, in large part due to its open-endedness and uncertainty. In practice, though, the complexities of the fair use doctrine pale in comparison to what is central to almost all cases of copyright infringement: the question of

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See, e.g., Dellar v. Samuel Goldwyn, Inc., 104 F.2d 661, 662 (2d Cir. 1939).
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“substantial similarity.” Premised on the idea that “not all copying...is copyright infringement,” copyright law’s substantial similarity doctrine requires a court to satisfy itself that a defendant’s copying is quantitatively and qualitatively enough like the original to render it actionable as infringement. The defendant’s copying, in other words, needs to result in a copy that is “substantially similar” to the plaintiff’s protected work for the copying to be actionable.

Determining whether two things are alike may seem like a simple task, but the substantial similarity requirement has been besieged by a host of problems, most of which derive from the reality that current copyright jurisprudence treats it as a fairly straightforward question of fact. Indeed, the case that originally developed the requirement described it as merely asking whether the defendant’s copying went “so far as to constitute improper appropriation,” and mandated that the question be presented to a jury to decide. The jury is supposed to simply decide whether a defendant’s copying rose to the level of an “illicit” or “unlawful” act, through the perspective of an “ordinary observer” or “lay listener.” In practice however, the structure of the inquiry makes it quite complex.

In the ordinary sequence of things, the question of substantial similarity arises once a plaintiff establishes first that she owns a valid copyright in the work, and second that the defendant did in actuality copy from the protected work. Establishing ownership of the work in turn requires showing both that the plaintiff owns the work, and that the work itself qualifies for copyright protection. If the work qualifies for protection and the plaintiff has a valid ownership interest in it, the court then looks to evidence on the question of whether the defendant actually copied from the protected work. This question too is treated as a factual question, and left to the jury, except that the law allows courts to admit the testimony of experts on the creative area in question.

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2 See generally Mark A. Lemley, Our Bizarre System for Proving Copyright Infringement, 57 J. COPYRIGHT Soc’y U.S.A. 719 (2010) (noting how it lies at the heart of copyright infringement, and yet that there exist “surprising differences” in the working of the doctrine).
4 Arnstein v. Porter, 154 F. 2d 464, 468-69 (2d Cir. 1946).
5 Id.
6 See, e.g., Arnstein, 154 F. 2d at 473; Universal Athletic Sales, Co. v. Salkeld, 511 F. 2d 904, 907 (3d Cir. 1975).
7 4 DAVID NIMMER & MELVILLE B. NIMMER, NIMMER ON COPYRIGHT §13.01 (2013).
8 4 id. §13.01[A].
9 Arnstein, 154 F. 2d at 469 (noting that copying “is an issue of fact”).
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Consequently, by the time a court reaches the question of substantial similarity, the jury has heard and analyzed a good deal of evidence: about the plaintiff, the defendant, the creativity involved, the process through which the work was created, the reasons for which the work was produced, the defendant’s own creative efforts and behavior, and on occasion the market effects of the defendant’s copying. Although the similarity finding is meant to involve no more than a comparison of the two works to assess whether they are sufficiently similar to render the copying problematic (i.e., improper), that judgment may be affected by the availability of this other evidence. The fact-finder—i.e., a court during a bench trial, or the jury ordinarily—is required to answer the question of substantial similarity through a mere comparison of the two works, which will often involve actively ignoring intuitively relevant and highly salient information. Copyright law thus seems to assume that the question of substantial similarity can continue to remain a simple comparison of the two works, even in the face of extensive factual evidence that bears directly on the dispute in question. The fact-finder is presumed to be able to cabin and exclude from the analysis all of the evidence with which the court has been presented in the lead-up to the issue of substantial similarity.

In examining this sequence of steps, one scholar of copyright law thus characterized the substantial similarity inquiry as being “bizarre” and as making “no sense.” It relegates to the fact-finder questions that require nuanced understandings not only of the artistic context but also of the legal framework—the kinds of questions that in other areas are typically answered by experts. One of us has further suggested that the substantial similarity question, given its place in the overall sequence of the infringement inquiry, is likely to be influenced by a variety of cognitive biases that the fact-finder brings to it. Indeed, there is even an argument that these kinds of normative judgments may be inevitable, and that copyright law ought to embrace the normative element of substantial similarity. Recognizing that the comparison of similarity is an intrinsically subjective exercise, where the fact-finder is exercising a moral judgment on the wrongfulness of the defendant’s actions using non-utilitarian variables, the substantial similarity test may take on an entirely different but more practicable meaning. In this study, we test these insights about the similarity determination using a series of experiments.

10 Lemley, supra note __, at 719.
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In other contexts, scholars have known for a long time that ignoring salient information is a very difficult cognitive task. Jurors are frequently called upon to disregard evidence (marital fault in a custody hearing, for example) or to avoid a natural and even accurate inference (e.g., that arrest is predictive of guilt). Instructions to ignore inadmissible evidence have been under fire for years, and rightly so—there is a substantial body of evidence showing that not only is the information hard to ignore, but that the instruction to ignore can actually have a backlash effect and make the information all the more salient. The cognitive task implicated by the substantial similarity instruction is somewhat more complex, which is perhaps why it has received less experimental attention. The instruction is not specifically about excluding salient information, but rather about cabining the inquiry to essentially perceptual stimuli. In some ways, this may explain the psychological naiveté of the rule; we might be inclined to think that the task is more about visual or aural perceptions rather than judgments, and that perception is less subject to contamination. In fact, though, over one hundred years of psychology has shown us various examples of “contaminated” perceptions. Extraneous information can affect the perception of the length of the line on a chalkboard, the events of a football game, or the appearance of a dancing gorilla on a computer screen. Our hypothesis then that similarities will seem more similar, and dissimilarities less obvious, when the judgment is embedded in a narrative that not only describes the intentional act of making one thing look like another but also identifies a wrongdoer.

The two new experimental studies we present below are a first pass at identifying the role of extrinsic evidence in judgments of substantial similarity. The studies have a very straightforward design. In each, we ask subjects to look at a pair of images and report how similar the images are. In a control condition, they have minimal extrinsic information. The experimental condition includes an additional fact about the act of copying, the creation of the work or the consequences of the copying. To preview the results, we found that when provided with additional information about the simple fact of copying or the creative effort that went into the protected work, we saw an appreciable upward shift in subjects’ assessments of similarity between the

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works, despite the fact that the works themselves remained the same and even though the subjects were consistently told that they had to base their assessments entirely on the works themselves.

Our results suggest that fact-finders are sensitive to additional information about the two works and the creators who produced them, much along the lines predicted by the critics of the substantial similarity analysis. We posit two mechanisms to explain these results, one based on how the information might affect the allocation of attentional resources and the other based on how information might motivate a particular judgment of similarity.

Part I begins with an overview of copyright law’s process of determining copying, and the role that substantial similarity plays therein. It first describes the current state of the law (I.A.) and identifies obvious problems that the literature points to within it (I.B.), which form the claims that our study investigates. Part II then describes the experimental design of our study, the methodology used, and the results that we obtained. Part III explains what these results mean for copyright law and the infringement inquiry.

I. SUBSTANTIAL SIMILARITY: THEORY AND PRACTICE

A. The Test

Copyright owners’ exclusive rights are described in 17 U.S.C. § 106 and include the rights to reproduce, distribute, publicly perform, publicly display, and digitally transmit the work as well as to prepare derivative works. To show that copyright infringement has occurred, an owner has to show that she owns a copyright and that at least one of the rights listed in Section 106 has been violated. Ownership is generally not the critical issue, but rather the existence of a violation is. When the claim consists of an alleged unauthorized reproduction of the work, the plaintiff has to show that her work was copied. Either direct or indirect evidence can be used to prove copying. If two works are similar enough, they are said to be strikingly similar and proof of access to the original work can be inferred on that basis.

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18 See id.
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recognized the principle that if access to the original work and a certain level of similarity between works are present, the most logical inference is that copying did indeed take place.22 Not all copying is actionable, however. For example, copying only small amounts of original expression from a work or copying only elements that are also in the public domain is legal. Copyright law seeks to prohibit substantial copying, which can result in a complex determination.23

While various circuits have adopted slightly different tests to determine the existence of copyright infringement, many of them fundamentally follow the approach of the U.S. Court of Appeals for the Second Circuit developed in Arnstein v. Porter.24 The songwriter Ira Arnstein accused his colleague Cole Porter of appropriating Arnstein’s work for a number of successful songs.25 The court created a two-step test that requires 1) evidence of access and similarities sufficient to demonstrate that copying has taken place and 2) a showing that the copying was illicit and amounts to unlawful appropriation.26 Unlike for the first step, no expert evidence or dissection of the work is permitted for the second step; rather, courts wish to find out the perception of the ordinary observer on this matter.27 In the Arnstein litigation, this meant that the court wanted to know for the second step “whether defendant took from plaintiff’s work so much of what is pleasing to the ears of lay listeners, who comprise the audience for whom such popular music is composed, that defendant wrongfully appropriated something which belongs to the plaintiff.”28 While the Arnstein court specified the importance of gauging the sentiments of the relevant audience, today only the Fourth Circuit explicitly emphasizes that aspect while other circuits tend to speak of the ordinary or reasonable observer more generically.29

22 Lemley, supra note __, at 720.
23 NIMMER, supra note __, at § 13.03[A].
24 154 F.2d 464 (2d Cir. 1946). For an in-depth description of the different tests used across the country, see ROBERT C. OSTERBERG & ERIC C. OSTERBERG, SUBSTANTIAL SIMILARITY IN COPYRIGHT LAW ch. 3. (2011).
25 See Arnstein, 154 F.2d at 467-68. Ira Arnstein had a long history of launching copyright infringement lawsuits. See generally GARY ROSEN, UNFAIR TO GENIUS: THE STRANGE AND LITIGIOUS CAREER OF IRA B. ARNSTEIN (2012).
26 Arnstein, 154 F.2d at 468.
27 See id.
28 Id. at 473.
29 See generally Manta, supra note __, at 1350-51. There is some variation on this, with a number of courts willing to make exceptions if the reasonable observer of a work is far apart from the average juror. See, e.g., Kohus v. Mariol, 328 F.3d 848, 857 (6th Cir. 2003).
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The Ninth Circuit, which has also implemented a two-step test, takes a slightly different approach to the issue of substantial similarity. It introduced its test in the case *Sid & Marty Krofft Television Productions, Inc. v. McDonald’s Corp.* and differentiates between a first, “extrinsic”, step and a second “intrinsic” one. The extrinsic step establishes probative similarity by determining the similarity of ideas with the help of experts and analytic dissection. The intrinsic step compares the response of the ordinary reasonable person to the expressions in the two works without the use of experts or dissection. The Ninth Circuit later sought to clarify its approach in *Shaw v. Lindheim*, explaining that the extrinsic test was essentially an objective one while the intrinsic test was subjective. Courts following this test, however, have introduced quite a bit of confusion by failing to differentiate between “what the jury subjectively experiences with what the hypothetical ordinary observer himself would perceive.” As a related matter, the jury instructions in these contexts show great heterogeneity and frequently fail to distinguish whose perception the legal test and hence the jury should seek to ascertain.

In presenting the question of similarity to a jury, the substantial similarity tests used in every circuit provide surprisingly little direction on precisely how the comparison is to be carried out. Most courts agree that the comparison needs to be conducted holistically, taking into account the work as a whole. Courts describe this as the “total concept and feel” approach to comparing the works, or as the “overall look and feel” approach. The comparison is thus meant to avoid focusing on individual components of the work that might emphasize the dissimilarities over the similarities. Both the Second and Ninth Circuits, the two primary developers of the substantial similarity standard, additionally insist that the test involves both a quantitative and a qualitative dimension. The quantitative dimension entails examining whether the copying crossed a “de minimis” threshold. The qualitative element on the other hand is meant to investigate the value and significance of

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30 562 F.2d 1157, 1164 (9th Cir. 1977), superseded by statute on other grounds, 17 U.S.C. § 504(b) (2006).
31 See id.
32 919 F.2d 1353, 1357 (9th Cir. 1990).
33 Manta, supra note __, at 1335.
34 See id. at 1335-36.
36 Sturdza v. United Arab Emirates, 281 F. 3d 1287, 1296 (D.C. Cir. 2002).
37 See Balganesh, supra note __, at 227.
38 Newton v. Diamond, 388 F. 3d 1189, 1195 (9th Cir. 2004); Twin Peaks Prods. v. Publ’ns Int’l Ltd., 996 F. 2d 1366, 1376–77 (2d Cir. 1993).
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the copying against the backdrop of the plaintiff’s whole work. In other words, it is meant to scrutinize whether the defendant appropriated aspects of the protected work that are particularly valuable and significant.\textsuperscript{40}

Beyond general abstract statements such as that “[y]ou must consider the qualitative and quantitative significance of the copied portions in relation to the work as a whole” and that the question is whether “compared to the work as a whole the average audience would not recognize the appropriation,” the test provides little additional instruction to the jury on the process through which they are meant to carry out the comparison.\textsuperscript{41} One court thus openly characterized the assessment of similarity as “virtually devoid of analysis” since it involves a “a mere subjective judgment” on whether the two works “are or are not similar.”\textsuperscript{42} Other courts have additionally indicated that the reaction (of the ordinary observer) that the jury is meant to consider, must be “spontaneous” and “immediate,” which adds a further air of subjectivity and apparent impulsiveness to the similarity comparison.\textsuperscript{43} Given this reality, no federal court of appeal today provides district courts with model jury instructions on the question of substantial similarity. While the Ninth Circuit initially attempted to do so, it eventually withdrew its model instructions, with the following observation that speaks to the abstract and intuitive nature of the test when translated into practice:

The committee concluded that the general statement of the test embodied in the former instruction was not helpful in light of the diverse facts that might arise at trial pertinent to a substantial similarity assessment. The committee also concluded that the court and counsel would be best served by specifically crafting instructions in this area based upon the particular work(s) at issue, the copyright in question, and the evidence developed at trial.\textsuperscript{44}

\textbf{B. The Problem}

The exact process of scrutiny that a fact-finder is supposed to undertake in applying the substantial similarity analysis remains unclear. Not only does the court/jury conducting the inquiry do so after being presented with evidence about the protected work, the plaintiff’s efforts in creating it, and the

\textsuperscript{40} Id.
\textsuperscript{42} Shaw v. Lindheim, 919 F.2d 1353, 1357 (9th Cir. 1990).
\textsuperscript{43} Peel & Co. v. Rug Mkt., 238 F. 3d 391, 398 (5th Cir. 2001).
\textsuperscript{44} U.S. COURT OF APPEALS FOR THE NINTH CIRCUIT, MANUAL OF MODEL JURY INSTRUCTIONS, §17.17 (2007).
defendant’s own actions in copying it, but the contours of the standards guiding the inquiry itself are also grossly imprecise and fuzzy. In practice, therefore, the substantial similarity analysis remains a virtual black box. To date, scholars have only speculated on how courts and juries are likely to go about applying the test given these realities.

We start by unpacking the substantial similarity task. There are two parts of this task. The first is a general attempt to determine what is the same and what is different between two works. This seems easy at first; it is literally child’s play in the old Sesame Street “One of these Things (Is Not Like the Others)” song.45 But think of how overwhelming the task would actually be, if broken down into its sub-steps, to try to iterate all the ways in which two images, for example, are different. Should we go pixel by pixel? What about stylistic similarities, or thematic similarities? There is a lot of information through which to sort, and a number of similarity “facts” necessarily recruit other kinds of background knowledge. And, of course, even if one could make such a list in a sensible way, there is a second task, and that is deciding on whether the identified similarities are enough, collectively, to constitute “substantial” similarity. Depending on one’s view, “substantial” could reasonably mean anything from “non-trivial” to “more than not” or even “highly.” For the purposes of this paper, we leave aside differential understandings of the standard of substantiality, and focus entirely on perceptions of similarity. But, as we have argued, those judgments alone are complex enough to implicate some of the findings from the bounded rationality literature. When a judgment task is difficult, people often rely on shortcuts or heuristics and are more likely to be swayed by salient factors to the exclusion of other important but more nuanced considerations.46

As such, our investigation begins with the proposition that the substantial similarity test requires jurors and judges to work through a complex and ill-defined cognitive task, and is therefore vulnerable to biased reasoning. One of us has in previous work argued that as a normative matter, the abstract and open-ended nature of the similarity analysis should be used by courts to infuse copyright law with possible deontic and moral considerations, during their analysis of similarity.47 The assessment of similarity in this conception is seen “as a proxy for the wrongfulness of the defendant’s actions,” when measured against the backdrop of the plaintiff’s creative endeavors.48

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45 Sesame Street Lyrics, One of these Things (Is Not Like the Others), http://www.metrolyrics.com/one-of-these-things-is-not-like-the-others-lyrics-sesame-street.html.
46 For a discussion of how decision-making for ambiguous tasks suffer a greater risk of falling pretty to cognitive biases, see Manta, supra note __, at 39-40.
47 Balganesh, supra note __, at 228.
48 Id.
on the notion of correlativity that originates in the ideal of corrective justice, this argument suggested that during the similarity inquiry, “the defendant’s actions are examined through the lens of a right-duty relationship between the plaintiff and the defendant.”49 The fact-finder is thus presumed to be examining how the defendant’s act of appropriating substance and value from the protected work interferes with the author-work connection that is a central part of the plaintiff-creator’s agency/autonomy, and which copyright law might implicitly be seen as protecting.50 Underlying this theory was the notion that courts (as fact-finders in the inquiry) were using a legal standard (i.e., substantial similarity) to give effect to their moral intuitions about the actions and parties involved, a feature of decision-making in other contexts that another one of us has explored empirically using methods from moral psychology.51 Moral considerations, specifically those relating to the wrongfulness of a defendant’s actions, the theory suggested, both do and should remain the focus of the similarity analysis, which copyright law would do well to openly acknowledge and embrace in its pluralistic structure.52

In other work, another one of us has examined the working of substantial similarity to suggest that its structure renders the inquiry open to a variety of cognitive biases. For example, we might think that the fact that a defendant has copied paints him as a bad actor, which thus colors the rest of the judgments required to find liability, a phenomenon sometimes referred to as a ‘reverse halo effect.’53 Or the knowledge of copying may affect how jurors search for information about similarity, tending to push them to look for evidence of the copying guided by confirmation bias.54 And, of course, decision-makers in this context are working with the benefits of hindsight, which we know is very hard to ignore. While scholars have in the past acknowledged the presence of hindsight bias in the working of copyright law, the substantial similarity analysis is perhaps most susceptible to its pitfalls, given that the fact-finder is asked to undertake the similarity analysis after evidence of actual copying is presented, and indeed a decision as to that

49 Id. at 251.
50 Id. at 254.
52 Id. at 249-57.
53 Manta, supra note __, at 1338-45.
54 Id.
question has already been made.\(^55\) This work thus hypothesized that a “legal decisionmaker may draw conscious or subconscious conclusions from a determination of copying, which will increase the chance that he or she will make a finding of substantial similarity.”\(^56\) This suggestion comports with the moral intuition described previously, since it also presumes that the decision-maker implicitly or explicitly disfavors “free riding” as an intuitive matter, and may thus come to incorporate this moral intuition into the similarity analysis by failing to disregard the evidence of copying.\(^57\)

Decision-makers’ use of moral judgments in contexts where the law deems moral considerations altogether irrelevant has shown to be an unavoidable reality in some areas. In specific, this has been demonstrated in the contract law setting, where the law treats breach of contract as premised on strict liability.\(^58\) Despite the fact that a defendant’s “fault” or morally wrongful behavior is meant to play no role in determining breach or in computing expectation damages, decision-makers invariably factor that into their decisions.\(^59\) Moral intuitions influence individuals’ analysis of the objective legal standard.

We should expect to see a similar reliance on moral intuitions about the wrongfulness of copying influencing decision-makers’ conclusions on substantial similarity, even though their analysis is meant to operate as a simple comparison of the two works. The wrongfulness of such copying might arise from their moral views on copying as such, and in addition from a variety of extrinsic considerations that they might see as influencing its wrongfulness such as the value and extent of the creator’s labor, the connection between the work and its creator, its market effects, and the copier’s bad-faith behavior. If the similarity analysis is in reality influenced by these considerations, the simplistic observation that liability for copyright infringement is in the end “strict” would seem to be at least partially untrue,\(^60\) and we may want to consider whether and how the law ought to take this into account.

The only previous work to have examined the working of substantial similarity through the use of behavioral experiments has sought to do so in the

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\(^{55}\) See, e.g., id. at 1339; Shyamkrishna Balganesh, Foreseeability and Copyright Incentives, 122 HARV. L. REV. 1569, 1631 (2009).

\(^{56}\) Manta, supra note __, at 1340.

\(^{57}\) Id.


\(^{59}\) Id.

\(^{60}\) Shyamkrishna Balganesh, The Obligatory Structure of Copyright Law, 125 HARV. L. REV. 1664, 1682 (2012).
context of music, where the test is meant to examine “lay listeners’” reactions.\footnote{Jamie Lund, An Empirical Examination of the Lay Listener Test in Music Composition Copyright Infringement, 11 V.A. SPORTS & ENT. L.J. 137 (2011).} Since copyright law protects both compositional and performance-based elements, decision-makers, the study shows, are unable to separate the two when asked to undertake the substantial similarity in relation only to one.\footnote{Id. at 175.} The study thus found that “playing an audio recording invites the juror to make the wrong comparison, comparing the sound recordings, rather than the compositional elements underlying each recording.”\footnote{Id. at 139.} This preliminary study thus suggests that our intuition is correct that the substantial similarity decision does indeed harbor a variety of external and potentially irrelevant considerations. In this paper, we therefore develop a series of experiments to examine whether and to which extent, decision-makers carrying out a similarity analysis employ their intuitive moral judgments about copying to decide the question.

II. EXPERIMENTAL METHODS AND RESULTS

The studies we report here have a straightforward structure. Using online surveys, we ask participants to make judgments about the similarity of images presented in pairs, varying the information about the creation or copying status of the images experimentally. Subjects make these judgments using a numerical scale, having been informed that they are only to take into account the images themselves. This means that subjects are not actually making an explicit judgment about substantiality; they are only rating similarity. We use subjects drawn from Amazon Mechanical Turk, a commonly used mechanism for recruiting participants in survey experiments.\footnote{See generally Winter Mason & Siddharth Suri, Conducting Behavioral Research on Amazon’s Mechanical Turk, 44 BEHAV. RES. METHODS 1 (2012); Gabriele Paolacci, Jesse Chandler & Panagiotis G. Ipeirotis, Running Experiments on Amazon Mechanical Turk, 5 JUDGMENT & DECISION MAKING 411 (2010).}

A. Study I

1. Methods

Study 1 tested the hypothesis that images seem more similar simply by virtue of being copies. Subjects were recruited on Amazon Turk, and then
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directed to a study programmed using the survey software Qualtrics. Each subject was paid $1 for completing the 5-minute questionnaire.

Subjects read the following instruction before seeing the image pairs:

In the scenarios that follow you will be presented with pairs of works and asked to examine the extent to which you consider them to be similar to each other. You will be asked to indicate your response on a scale of 1 to 7, with 1 being the least similar and 7 being the most similar.

In examining the similarity between the two works, please use the following guidelines:

1.1 You must base your answers (on the similarity between the works) entirely on a comparison of the work themselves.
1.2 There will no doubt be similarities and dissimilarities between different parts of the two works. You must determine the extent to which, as an observer of the works, you would regard them—as a whole—as similar to one another.

Please assume that the works on the left were created before the works on the right.

Subjects were then randomly assigned to either the Independent group or the Copy group. After reading the initial instructions, subjects saw the first in a series of 8 pairs of images (the order of image pairs was random). Before answering the similarity question, subjects received information about copying. Subjects in the Independent group read, “Please assume that the creator of the work on the right did not know about the work on the left during the process of creation.” Subjects in the Copy group read, “Please assume that the creator of the work on the right copied from the work on the right during the process of creation.” Note that this means that a given subjects saw all images in one condition or the other. An example of the image pairs is pictured below; all of the image pairs are included in the Appendix.
2. Results

152 subjects participated. 58.9% of subjects were female; ages ranged from 19 to 70 with a median age of 31.

This study tests the effect of information about copying on assessments of similarity. As such, our first test is whether, in the aggregate, subjects in the Copy group found the image pairs more similar than subjects in the Independent group. They did. The mean rating of similarity in the Independent group was 4.28, and the mean rating of similarity in the Copy group was 4.61. This difference is highly significant (W=2179, p=.009). As is clear from Table 1, below, the effect size varied significantly by image. Rug 2 and Rug 3 are the only image pairs that showed significant differences by condition when tested separately. Even when those images are removed from the aggregate

65 We use a two-sided non-parametric test of differences here. A non-parametric test does not assume normal distribution of the data. It is a more conservative test of significance than, for example, a t-test. A two-sided test is also somewhat conservative in this case, insofar as our prediction is one-sided—we are predicting, in both studies, that additional information about copying will make the images appear more similar, not just different.
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analysis, however, the effect of condition remains marginally significant even using a two-way non-parametric test (W=2392.5, p=.068).

Table 1. Mean similarity ratings by condition

<table>
<thead>
<tr>
<th></th>
<th>Independent</th>
<th>Copy</th>
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<tbody>
<tr>
<td>American Gothic</td>
<td>4.84</td>
<td>4.83</td>
</tr>
<tr>
<td>Father</td>
<td>4.69</td>
<td>5.03</td>
</tr>
<tr>
<td>Accordion</td>
<td>4.10</td>
<td>4.43</td>
</tr>
<tr>
<td>Pen Grid</td>
<td>4.45</td>
<td>4.71</td>
</tr>
<tr>
<td>New Yorker</td>
<td>3.64</td>
<td>3.85</td>
</tr>
<tr>
<td>Rug 1</td>
<td>3.92</td>
<td>4.15</td>
</tr>
<tr>
<td>Rug 2</td>
<td>4.08</td>
<td>4.65</td>
</tr>
<tr>
<td>Rug 3</td>
<td>3.51</td>
<td>4.20</td>
</tr>
</tbody>
</table>

Overall, these results strongly suggest that the similarity judgment is affected by the mere fact of knowledge of copying.

With this experiment, we are unable to distinguish among the possible mechanisms of this effect. That is, we can imagine two primary explanations for this phenomenon. The first is essentially an attentional explanation—once a person is told that an image is copied, the similarities may be easier to find. Assessing similarity may become a kind of exercise in confirmation bias. The second explanation is one of motivated reasoning. That is, people may find copying morally distasteful and import their preference to punish the copier into their judgment of similarity. In this particular study, the first explanation is particularly compelling because subjects did not actually have information about the consequences of the similarity judgment. They may have assumed that more similarity would lead to greater liability, but we do not know how they understood the relationship between similarity and liability from this experiment alone. Given the relatively sparse legal and moral context of the judgment task we presented to subjects here, the attentional explanation is particularly plausible.

With Study 2, we bring more legal context to the decision task in order to specifically judge the effect of morally relevant information on judgments of similarity. We explore the kinds of intuitions or biases that may affect
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judgments of similarity by selectively introducing two types of salient facts about the creation process to subjects in one of the experimental groups.

B. Study 2

In the second study, we tested two hypotheses that are specifically about how moral intuitions about unfairness of copying might affect judgments of similarity. We tested the effect of information about high versus low effort invested by the original creator, and separately tested the effect of information about negative versus no change in market demand for the original since the copy became available. In this study, though the general method is the same, we introduced the similarity task with some context for the similarity judgment. To the extent that the similarity judgment is motivated by moral intuitions, the motivation derives from the knowledge that findings of more similarity are more likely to result in punishment for the copier and/or compensation for the wronged creator.

This study uses a single image pair in hopes of eliciting a clean response to a single image pair, as a jury would do in a trial.

1. Method

We had two hypotheses. The first hypothesis was that subjects would find the images more similar when the original was labor-intensive than when the original had required little labor to create. The second hypothesis was that subjects would find the images more similar when the copying had a negative economic impact on the original creator than when the copying had no economic impact on the original creator.

All subjects read the following instructions:

You will be asked to read a set of instructions that are typically shown to juries in copyright infringement cases where the court is trying to determine whether or not to impose liability on someone who has copied another person’s copyrighted work. A court that does find liability will either require that the copier pay money damages to the original creator and/or require that the copier stop copying.

When a court considers a copyright infringement claim, it asks the jury to determine whether an original work and a copied work are “substantially similar.” If the works are not substantially similar, there is no copyright infringement and thus no liability for the copier, even if the copier did in fact copy from the original work.

In the scenarios that follow you will be presented with pairs of works and asked to examine the extent to which you consider them to be similar to each
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other. You will be asked to indicate your response on a scale of 1 to 10, with 1 being the least similar and 10 being the most similar. In examining the similarity between the two works, please use the following guidelines:

1.1 You must base your answers (on the similarity between the works) entirely on a comparison of the works themselves.

1.2 There will no doubt be similarities and dissimilarities between different parts of the two works. You must determine the extent to which, as an observer of the works, you would regard them—as a whole—as similar to one another.

In this case, assume that the work on the left is the original and the work on the right is the copy.

We used the image pair below to test the respective effects of the two manipulations (labor information and market substitution information).

This study was entirely between-subjects. Each subject made a single judgment about the similarity of the images. Each subject was assigned randomly to one of four conditions: High Labor, Low Labor, Market Effect, or No Market Effect. The text for each condition is as follows:

High Labor Condition: “The creator of the original spent about two months designing and setting up the shot to get this photograph.”

Low Labor Condition: “The creator of the original spent about ten minutes designing and setting up the shot to get this photograph.”
**Judging Similarity**

Market Effect Condition: “Since the copy has become available, it has had a strong negative effect on demand for prints and licenses of the original. Sales of the original (digital and print) are down by over 60% since the copy came on the market.”

No Market Effect Condition: “Since the copy has become available, it has had no effect on demand for prints and licenses of the original. Sales of the original (digital and print) have not changed since the copy came on the market.”

2. Results

493 subjects were recruited via Amazon Mechanical Turk. 66.1% of them were female, and their ages ranged from 18 to 66 with a median of 28. They were paid $.50 to complete a two-minute task. 141 subjects were assigned to one of the Market Substitution conditions, and 352 subjects were assigned to one of the Labor conditions.66

Subjects who saw the High Labor condition rated the photographs as more similar than subjects who saw the Low Labor condition. The median similarity rating for the High Labor condition was 8; for the Low Labor condition it was 7. The mean difference was .50 on a ten-point scale, 7.2 vs. 6.7, a significant difference (W=13440.5, p=.030). To get a sense of how this shift might show up in real life, it helps to think of it in terms of percentages. As we show in the table below, there is a real downward shift, of about 8.5%, in the number of subjects who find the images relatively dissimilar (below the midpoint, 5, on the scale), and a concomitant upward shift in the subjects who find the images nearly identical (9 or 10 on a ten-point scale).

<table>
<thead>
<tr>
<th></th>
<th>Low Labor</th>
<th>High Labor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>6.71</td>
<td>7.21</td>
</tr>
<tr>
<td>Median</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>% Reporting Dissimilarity (1-5)</td>
<td>25.9%</td>
<td>17.4%</td>
</tr>
<tr>
<td>% Reporting High Similarity (9-10)</td>
<td>20.1%</td>
<td>28.7%</td>
</tr>
</tbody>
</table>

There was no effect of information about market substitution (W=2567, p=.970).

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66 The uneven distribution across hypotheses was deliberate and used essentially as a cost-saving measure. After we obtained the first set of results, it was clear that the Market Substitution item showed no differences, so we removed it to increase the power of the test of the Labor manipulation.
III. DISCUSSION

These studies yielded two major results. The first is that mere knowledge of copying has the tendency to make works seem more similar. The second is that, even when the fact of copying is established, information about the original creator’s personal labor investment in the work affects perceptions of similarity, where the copy of a high-labor work is rated as more similar to the original than the copy of a low-labor original work. Before we begin to think about the explanations and implications of these results, we draw some basic inferences about these results given the study design. First, there are obviously differences between assessing similarity in an online survey and in a courtroom. It is probably safe to assume that in the court context, jurors and judges invest significantly more time and energy in their judgments. And, in a court context, the information context is much richer and more complicated. Jurors know a lot about the works by the time they are being asked to assess similarity, and it is possible that the sheer volume of information could dwarf the effect of a single fact about the creator’s labor investment. Though we acknowledge the challenges to generalizing these results to the real-world context, we think there is reason to find these studies somewhat less problematic from an external validity standpoint than other questionnaire studies. In essence, here, the task is actually nearly identical to the task of judges and jurors in a copyright infringement action—they are asked to look at two images and decide how similar they are. Indeed, we would argue that these results may actually be quite conservative, insofar as there is no overwhelmingly salient information about an aggrieved and sympathetic creator or blatantly self-interested copier. The language used in these studies is fairly terse and neutral, which presumably distinguishes it from the kinds of evidence that would be presented at trial.

A. Psychological Mechanisms for Distorted Similarity Judgments

While the risk of cognitive bias in the copyright infringement test has been recognized by scholars a number of times, our experiment provides more definitive evidence of its existence. Two types of biases may help to explain the results of the first study. The first type consists of attentional biases. An attentional bias describes the tendency to focus on some information and ignore other information in a manner that does not reflect the relative importance of the information sets for the particular inquiry. We can think of this class of bias as being essentially about salience—a focus on stimuli or attributes that easily capture our attention, for one reason or another. Because the inquiry is framed in terms of similarity and not difference, the tendency
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may be to search for similarities rather than differences. It is unsurprising in this context that knowledge of copying would exacerbate such a bias because knowledge of copying makes the possibility of similarities more salient, and the subject will actively search for them, a phenomenon referred to as a “confirmation bias”—the preferential search for information that is congruent with one’s hypothesis rather than the more valuable search for information that would falsify. This explanation is particularly apt in the copying context, because what we understand copying to be about is making things similar. Anchoring is also an attentional bias—lack of attention to updates to a baseline assessment or belief. Here, subjects may have “anchored” on the notion that copied images would be highly similar, and then failed to fully adjust to account for the actual differences in the images. Overall, increased focus on similarities knowing that the similarities are intentional should not be especially surprising.

Nonetheless, it is less plausible to think that this kind of attentional bias can explain what is happening in the second study. Why would knowledge of the creator’s painstaking labor make similarities to the copy more salient and dissimilarities less salient, especially when the fact of copying is disclosed in both the High and Low Labor conditions? The goal of the second study was to get at a second explanation for how similarity judgments may be distorted by extrinsic evidence about the creator and the copier. The second type of bias that the study may be capturing is a form of motivated reasoning grounded in morality considerations. Motivated reasoning is a broad category of biases that might be thought of as wishful thinking. The idea is just that sometimes people who try to make objective judgments find that their reasoning and inferences are biased toward answers that favor their underlying beliefs and preferences. So, in this case, if copying seems unfair, and copying someone else’s hard work even more unfair, we may see increased similarity judgments because subjects and/or jurors are implicitly motivated by the prospect of liability for a bad actor. While legally insufficient to determine a proper finding of infringement, accusations of copying alone conjure negative images of plagiarism and cheating, and hence the copier is by his nature seen as an


68 This would be in line with what one of us predicted in her previous work. See Manta, supra note __, at 43-44.

69 Allison Orr Larsen, Factual Precedents, 162 U. PA. L. REV. 59, 101 (2013) (citation omitted) (explaining that motivated reasoning broadly refers to the tendency to “look for sources to support what we already think we know”).
unsavory character. Defendants’ lawyers may have trouble dispelling this image, especially when plaintiffs’ attorneys will do all they can to encourage juries to think of copying and similarity in the same context.

Unlike in a trial setting, where the facts in copyright cases greatly differ from one situation to another, our study enabled us to isolate the copying element. Nothing changed between the two conditions aside from the statement that the creator of the junior work copied from the original. In that sense, our results are profound. While we cannot state this conclusively, there is reason to believe that the powerful effect of the knowledge of copying may sway decisions on infringement at the margin. We purposefully picked works for our comparisons that were neither near-identical nor entirely unrelated but rather presented a mix of similarities and differences. The types of work pairings likely to go to court rather than be settled or dismissed fall into this category as well. While showing similarity can legally form part of the evidence to demonstrate copying, the reverse is not the case. We are observing a phenomenon that Barton Beebe has termed “factor stampeding” in the trademark context, where decisions on some elements of a multi-factor test become excessively dependent on decisions on other elements. One could argue that for two works that are quite dissimilar, the force of the stampeding would be insufficient to sway juries to see the works as substantially similar. The number in this subset of cases is likely to be exceedingly small, however, as copying itself will be hard to prove if the works are too dissimilar, short of the rare cases involving “smoking gun” evidence of copying.

It is also conceivable that in some cases, the stampeding of similarity through copying will not be as dramatic if the similarity already played an important role in the determination that copying took place. This may, indeed, alleviate the magnitude of the effect we found in this study, but there remains a great risk that we have replaced the “substantial similarity” test with a “striking similarity” test for the second rather than just the first step of the analysis in that case. In other words, if in some cases striking similarity leads to a finding of copying, which then in turn in a non-negligible set of cases at the margin leads to a finding of substantial similarity that would not have been found but for the evidence of copying, the striking has replaced the substantial. The end result is a lowered bar for how similar two works have to be for infringement to subsist, which represents a shift toward plaintiffs that the courts responsible

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71 Manta, supra note __, at 43.
for developing the substantial similarity test never anticipated. In any case, our finding that courts are potentially not actually doing what they believe themselves to be doing—i.e., specifically determine whether substantial similarity is present—is reason enough for concern.

B. Labor and Free-riding as Distortionary Intuitions

One issue that the first study did not address is—to the extent that motivated reasoning explains the results—which aspect of morality-based determinations drives subjects to import their perceptions of wrongfulness or unfairness into the similarity analysis. Are they concerned about the rights of an owner because of the amount of work she put in? Do they fear that the new work will supplant the old work in the market? We designed the second study to better be able to answer these questions.

The results of our second study suggest that labor-based considerations play an important role in motivating decision-makers’ reasoning on the question of similarity. As noted previously, our second study involved giving subjects additional information about the amount of effort (measured in time) that a creator put into creating the work, and then asking them to measure the similarity between the original work and the copy. We observed an appreciable upward assessment of similarity when subjects were given a strong labor condition. When presented with information about market substitution, however, subjects displayed no similar variation.

This suggests that labor continues to play an important intuitive/moral role in influencing parties’ reasoning on the similarity question. Unlike in the previous study, subjects in the second study were expressly told that the similarity assessment was occurring within the context of a copyright infringement dispute and that their assessment of similarity would have a direct bearing on the question of liability, thereby suggesting that subjects were indeed engaging in a form of motivated reasoning, knowing the consequences of their finding, i.e., that the copier would be found liable for copyright infringement. It is plausible that this motivated reasoning was shaping their analysis in one of the following two ways.

In the first, it might have fuelled (or indeed triggered) the intuition that the greater expenditure of labor ought to correlate to a stronger property right or ownership interest. Traditionally associated with Lockean ideals, this intuition is thought to map onto people’s beliefs about owing the products and fruits of their labor-intensive activities. Some studies suggest that the same intuition explains the endowment effect in certain contexts. In our study, it would suggest that the subjects simply associated the creator’s extensive expenditure of labor with “stronger protection” for the work, which they then
translated into a looser standard for similarity, knowing that it would feed directly into the assessment of liability. In an equally plausible second possibility, the expenditure of labor may not have triggered subjects’ beliefs about the strength of the property right, but instead directly affected their intuitions about the wrongfulness of the copying. Copying, as is well known, is commonly perceived as a form of free riding, and it is therefore conceivable that the creator’s expenditure of labor led subjects to view the copying involved as entailing greater (and more morally outrageous) free riding, which they treated as wrongful. In a sense then, this interpretation maps on the “reaping without sowing” intuition thought to be at stake in misappropriation cases.73 It is, of course, also likely that subjects’ reasoning was motivated in part by both intuitions.

Perhaps most importantly, though, if our interpretation of subjects’ reasoning is correct, it suggests that copyright law and policy have done a poor job of cabining labor-based considerations. In its now notorious decision in *Feist v. Rural Telephone Services Co.*, the Supreme Court categorically concluded that “sweat of the brow” considerations — i.e., that “copyright was a reward” for “hard work” — are largely irrelevant to copyright law, especially in determining whether and how much protection works obtain.74 While this may be true as a formal matter, our study suggests that decision-makers have a tendency to reintroduce such considerations during their assessment of similarity as part of the copyright infringement analysis. Our study suggests that instead of claiming to have labor-based considerations play no part whatsoever in its working, copyright law should make a more concerted effort to eliminate such considerations from the different elements of the analysis, or instead embrace the reality that moral intuitions relating to labor and free-riding directly influence the assessment of similarity, which in turn serves as a simple proxy for wrongfulness.

**CONCLUSION**

Substantial similarity plays an important role in copyright adjudication. It allows courts to tailor the precise scope of the copyright owner’s rights by determining the amount of copying that the owner should be able to restrict through the law’s framework of exclusive rights. Brought into existence in the


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mid-nineteenth century, it is today an essential component of almost all copyright infringement actions that do not involve slavish copying by a defendant (for example, music downloading). Copyright law treats it as a simple factual question, premised on a similarity comparison of the two works, in the rather naïve belief that lay decisionmakers (i.e., juries) can cabin the question of similarity from other intuitions that are routinely at play in copyright infringement cases. Our studies show that copyright law is indeed fundamentally misguided in its treatment of the similarity question as being only about the two works at issue.

Our first study reveals that basic knowledge about the act of copying, meaning that one work was copied from the other, greatly influences individuals’ assessments of similarity. And since substantial similarity is presented as a question to the jury once copying as a factual matter is shown to exist, the substantial similarity question is structurally skewed in favor of a jury’s finding greater—i.e., substantial—similarity between the two works. Our second study shows that in addition to simple knowledge about the copying, additional information about the creator’s efforts in producing the work also trigger individuals’ intuitions that cause them to find a greater amount of similarity between two works. In some ways, this finding is perhaps more troubling for copyright law because it suggests that juries, who are the decisionmakers on the similarity question, are likely introducing variables into the analysis/comparison that copyright law’s devices have over the years worked hard to eliminate from consideration altogether. A creator’s labor/effort is one such prominent consideration, which copyright jurisprudence in the United States has uniformly jettisoned as irrelevant.

What is perhaps additionally problematic about this finding, i.e., that decisionmakers are influenced by “sweat of the brow” type considerations, is the reality that this influence is very likely unknown even to them, since it operates at the level of intuition. Our study therefore suggests the rather distinct possibility that there might indeed be additional such influences at play in subjects’ similarity comparisons, most of which ought to be kept out of the copyright system altogether. These might include additional information about the market positions of the plaintiff and defendant, a defendant’s bad faith intentions, a defendant’s attempt to conceal its copying, the plaintiff’s personal affinity (or personalization) of the work, and the like. We hope that future studies will explore the full extent to which these influences cloud the similarity analysis, and perhaps cause courts and law-makers to re-evaluate their simplistic treatment of substantial similarity as a question of fact.

At a purely theoretical level though, our study leads us to conclude that while it may be true as a matter of theory that liability for copyright
infringement is indeed “strict,” in practice this is perhaps largely untrue. Strict liability is conceived of today as a form of liability that is insensitive to either the defendant’s wrongdoing (i.e., fault) or to the consequences/harm that flows from the defendant’s actions.75 Our study suggests that neither assumption may necessarily hold true in practice, since decisionmakers are indeed “judging” the defendant’s actions in assessing similarity. Given this reality, it is perhaps time for copyright law to reconsider its dogmatic adherence to a model of strict liability—in both theory and practice.

75 See Balganesh, supra note __, at 1682 (describing copyright’s structure as a strict liability tort).
Appendix: Image pairs, Study 1

American Gothic

Father

New Yorker
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Accordion
Judging Similarity

Pen

Rug 1
Judging Similarity

Rug 2

Rug 3