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What's a Name Worth?: Experimental Tests of the Value of Attribution in Intellectual Property

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ARTICLE

WHAT'S A NAME WORTH? EXPERIMENTAL TESTS OF THE VALUE OF ATTRIBUTION IN INTELLECTUAL PROPERTY

CHRISTOPHER JON SPRIGMAN,* CHRISTOPHER BUCCAFUSCO,** & ZACHARY BURNS***

INTRODUCTION 103
I. ATTRIBUTION, PUBLICATION, AND THE VALUE OF IP 106
A. *Valuing IP* 106
1. Background 106
2. Design of Prior Experiments 109
3. Prior Results 109
B. *New Experiments: The Value of Attribution and Publication* 110
1. Attribution in Law and Practice 113
2. Modeling the Value of Attribution and Publication 116
II. THE CURRENT STUDIES 117
A. *Experiment 1: Valuing Attribution – Mechanical Turk Study* 118

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1. Mechanical Turk Methods 118
a. *Contest Condition* 118
b. *Publication Condition* 119
c. *Attribution Condition* 119
2. Mechanical Turk Results 120
3. Mechanical Turk Discussion 121
B. *Experiment 2: Valuing Attribution – Professional and Advanced Amateur Photographers* 124
1. Methods and Results 124
2. Discussion 126
C. *Experiment 3: Studying a Default Attribution Right* 128
1. Methods.. 129
2. Results… 131
3. Discussion 132
III. IMPLICATIONS FOR LAW AND POLICY 136
A. *Building upon the Previous Studies* 137
B. *Evaluating Whether to Provide a Default Right of Attribution* 138
C. *Wider Implications for Property Theory and the Efficient Structuring of Default Rules* 144
CONCLUSION 146

Despite considerable research suggesting that creators value attribution – that is, being named as the creator of a work – U.S. intellectual property (IP) law does not provide a right to attribution to the vast majority of creators. On the other side of the Atlantic, however, many European countries give creators, at least in their copyright laws, much stronger rights to attribution. At first blush it may seem that the U.S. has gotten it wrong, and the Europeans have made a better policy choice in providing to creators a right that they value. But for reasons we will explain in this Article, matters are much more complicated.

This Article reports a series of experiments that are the first to attempt to measure quantitatively the value of attribution to creators. In previous research, we have shown that creators of IP are subject to a "creativity effect" that results in their assigning substantially higher value to their works than neoclassical economic theory predicts. The first two experiments reported in this Article suggest a way that the creativity effect may be reduced: creators are willing to sacrifice significant economic payments in favor of receiving attribution for their work. The value to creators of attribution raises the question whether U.S. IP law should be restructured to provide attribution as a creator's default right.

The third and most important experiment reported here casts doubt on the value of giving creators such a default right, because creators value attribution differently depending on whether the legal rule gives it to them as an initial entitlement or not. When creators are given a right to attribution as a

default, they value credit four times higher than when attribution is not the default option. Our findings make clear that creators value attribution, and that the prospect of obtaining it can lead to a more efficient level of transacting. At the same time, paradoxically, our findings suggest that we should exercise caution before we restructure American law, which provides no right to attribution for the vast majority of creators. Indeed, it is possible, under conditions that we will describe, that providing creators with a default right to attribution will result in less efficient transacting.

Finally, our findings have implications for property theory which are broader than IP law or attribution rights. Our third experiment suggests that a party who enjoys a default legal right as part of her initial complement of rights will tend to treat that legal right in a fashion similar to any other form of initial entitlement, and overvalue it relative to what neoclassical theory would predict. This suggests a principle regarding how to efficiently structure default rules in any setting. All other factors being equal, an efficiently structured default rule will locate the initial legal entitlement in the party who is either less likely to overvalue the entitlement, or, if overvaluation seems inevitable regardless of where the initial entitlement is placed, is likely to overvalue it less.

INTRODUCTION

Imagine that you are a young and as yet unknown author. You have been contacted by a publishing company that wants you to assist a famous politician in writing her memoirs. The company gives you a choice between two contracts: the first will pay you $25,000 but your name will not appear anywhere on the book, while the second will pay you $10,000 but your name will appear as a second author on the book's cover and title page. If you are like most people, you are certainly attracted to the extra cash. But credit is probably also worth something to you as well. You may value being named as an author because you feel it is morally right that you get credit, or because it will enhance your reputation and social standing, or because it could help you receive other, more lucrative writing contracts in the future. Would you be willing to take the smaller payment in exchange for having your name on the book?

Intuition and experience indicate that authors value having their name associated with their work. In addition, a growing body of research, including studies by the authors of this Article, finds that, in many fields of creative endeavor, people value receiving attribution for the work that they have done.[1]

[1] *See* KAL RAUSTIALA & CHRISTOPHER SPRIGMAN, THE KNOCKOFF ECONOMY: HOW IMITATION SPARKS INNOVATION 178-79, 185-88 (2012) (describing how chefs, open source software programmers, and other creators value attribution); Christopher J. Buccafusco, *On the Legal Consequences of Sauces: Should Thomas Keller's Recipes Be Per Se Copyrightable?*, 24 CARDOZO ARTS & ENT. L.J. 1121, 1151-54 (2007) (describing social norms governing attribution among American chefs); Emmanuelle Fauchart & Eric von

But aside from this general sense of attribution's value, neither our intuitions nor existing research provide specific guidance as to the value of attribution. For example, how much is attribution actually worth to the average author? And do authors' assessments of the value of attribution shift depending on whether the law provides them with a default right to it? That is, do authors' valuations of attribution differ between instances where the author possesses the right as an initial entitlement and is considering whether to trade it away, and instances where the author starts with no default right to attribution and is considering trading off money to get it?

There is almost certainly data in the hands of publishers, software firms, movie studios, and record companies that might help answer these questions, but there is at present little prospect that it will be made available to researchers. Rather than wait, we set out to create our own data, via experiments designed to simulate intellectual property (IP) transactions. This Article reports the results of three experiments designed to test the value of attribution and to determine if that value varies depending on whether the author starts with a default right to attribution or not.

These questions are of significant contemporary importance. In earlier work we experimentally studied the ways in which creators assign monetary value to the things they create.[2] That research suggested that creators are subject to a systematic bias that leads them to overvalue their work. This bias, which we have called the "creativity effect," potentially results in inefficient markets in IP because creators may be unwilling to license their works for rational amounts.[3] But if creators value opportunities for publication and attribution, they should be willing to trade off monetary compensation for those opportunities – and that willingness to reach a deal for less money might mitigate, or perhaps even eliminate, the creativity effect.

In the first two experiments we conducted and report in this Article, we created a protocol that allows authors to make a tradeoff between monetary compensation on the one hand and publication and attribution on the other. The results offer new insight into the value of attribution, and they confirm that the prospect of attribution does affect how creators value their work. Attribution is not, however, a panacea for the inefficiencies generated by the creativity effect: as we shall describe, subjects offered the prospect of attribution still

Hippel, *Norms-Based Intellectual Property Systems: The Case of French Chefs*, 19 ORG. SCI. 187, 191-94 (2008) (describing norms governing attribution among French chefs); Catherine L. Fisk, *Credit Where It's Due: The Law and Norms of Attribution*, 95 GEO. L.J. 49, 76-101 (2006) (describing attribution norms across various fields).

[2] Christopher Buccafusco & Christopher Jon Sprigman, *The Creativity Effect*, 78 U. CHI. L. REV. 31, 31-32 (2011) [hereinafter Buccafusco & Sprigman, Creativity *Effect*]; Christopher Buccafusco & Christopher Sprigman, *Valuing Intellectual Property: An Experiment*, 96 CORNELL L. REV. 1, 4-5 (2010) [hereinafter Buccafusco & Sprigman, *Valuing IP*].

[3] Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 32.

tend to overvalue their works, albeit to a lesser degree than the overvaluation observed when the prospect of attribution is not present.

Empirically confirming the intuition that authors value attribution and getting some sense of the size of that value are important steps toward improving our currently poor understanding of how markets in creative goods actually work. The findings of our first two experiments suggest that the prospect of attribution is a useful countervailing force that reduces the creativity effect and thereby improves the efficiency of markets in creative works.

These findings do not, however, automatically signal that American IP law, and especially American copyright law, should incorporate a general creators' right to attribution.[4] At present, IP law in the U.S. accords only very limited protection to a creator's interest in attribution.[5] Instead, the law focuses on protecting an author or inventor's ability to obtain financial compensation for the sale or use of her work.[6] To the extent that she desires recognition of her contribution to a work or product, she will typically have to bargain for it separately.

Many scholars have called for the U.S. to adopt a default attribution right similar to those in Europe.[7] But is such a rule efficient? Would American IP law function better if it provided creators with a default (that is, waivable) attribution right?

To gain a better understanding of that policy question, we conducted a third experiment testing the economic effects of assigning creators default waivable attribution rights. The results of this experiment confirm research in the behavioral sciences that shows that default rules can be very "sticky": people are often reluctant to adjust away from the status quo default. *Our data indicate that when attribution is provided in creators' default endowment they value it approximately four times as much as they do when credit is not provided initially*. This suggests that, all else being equal, if creators are given default attribution rights, transactions over attribution would tend to face higher costs inhering in creators' tendency to overvalue that initial default right. Transactions under this default rule would therefore occur less frequently than when the default does not provide an attribution right.

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[4] U.S. copyright law already recognizes a narrow right to attribution for the authors of a small category of very valuable works of fine art. *See* 17 U.S.C. § 106A (2006); Roberta Rosenthal Kwall, *Inspiration and Innovation: The Intrinsic Dimension of the Artistic Soul*, 81 NOTRE DAME L. REV. 1945, 1992-93 (2006) (describing the limitations in the Visual Artists Rights Act of 1990 (VARA), codified at 17 U.S.C. § 106A, that render the Act inapplicable to the majority of creative works); *infra* notes 25-26. U.S. patent law also requires that the actual inventor be named on the patent application, but nothing in patent law gives the inventor any right to have his or her name associated with the invention as it is actually made, sold, and used in the marketplace. *See* 35 U.S.C. §§ 111-115 (2006).

[5] *See infra* notes 25-29 and accompanying text.

[6] *See, e.g.*, 17 U.S.C. § 106 (describing the exclusive rights of copyright owners).

[7] *See infra* note 31.

The takeaway of this observation for the law is not entirely straightforward. In a world of significant transaction costs, the Coase Theorem advises policymakers to avoid as many costly transactions as possible by granting initial entitlements to those likely to value them the most.[8] In many cases the Coasean formula is likely to produce efficient outcomes. Our findings suggest, however, that this relatively simple formula can in some instances lead to inefficient allocations. If transaction costs created by overvaluation of a default right to attribution – what we can refer to as "behavioral transaction costs" or "bias costs" – outweigh the ordinary transaction costs recognized by the neoclassical model, it may be best to keep American law as it is. In such instances, our results suggest that adding a default right to attribution to American IP law would more likely *worsen*, rather than reduce, inefficiencies in IP licensing markets.

Part I describes our previous research on IP valuation and the questions that motivated the current research. It discusses earlier work by others on attribution and explains our premises for this new research. Part II reports on the methods and results of the three experiments we designed to test the value that photographers assign to publication and attribution and to assess the effects of a default attribution right. Part III explores the implications of our findings for the law.

I. ATTRIBUTION, PUBLICATION, AND THE VALUE OF IP

A. *Valuing IP*

1. Background

For decades, IP law has rested on a series of assumptions about how the creators of IP should behave. Under these assumptions, derived from ideas in neoclassical economics, IP creators, like everyone else in the world, behave as rational value maximizers. That is, on the whole and over time, creators make rational, wealth-maximizing decisions with respect to valuing, licensing, and selling their IP.[9] In recent years, however, the assumption that people's decisions conform to the neoclassical model has been substantially undermined by empirical studies in behavioral economics. Most importantly, many studies have shown that when it comes to assigning value to things that they own, people are subject to a cognitive bias, known as the "endowment effect," that

[8] *See* R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 19 (1960) ("Even when it is possible to change the legal delimitation of rights through market transactions, it is obviously desirable to reduce the need for such transactions and thus reduce the employment of resources in carrying them out."); *see also* RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 10, 63-67 (8th ed. 2011).

[9] *See* WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 71-84 (2003).

results in considerable overvaluation of the owned goods.[10] Accordingly, the amount of money people are willing to accept (WTA) to part with goods they own is typically significantly higher than the amount of money that similarly situated people are willing to pay (WTP) to purchase those same goods.

In our earlier work, we inquired whether these same findings would apply to IP.[11] Unlike land and ordinary personal property, IP is nonrival, that is, its consumption by one person does not prevent another person from consuming it.[12] And because IP is nonrival, transactions involving this form of property are fundamentally different from those studied in the existing endowment effects experiments, which have modeled transactions over tangible property like coffee mugs, candy bars, and basketball tickets.[13] When parties transact over IP, the seller usually does not give up the tangible property itself but only

[10] *See* DAN ARIELY, PREDICTABLY IRRATIONAL 127-38 (2008) (describing the endowment effect as a "peculiarity" of ownership that often affects owners' ability to deal rationally); Ziv Carmon & Dan Ariely, *Focusing on the Forgone: How Value Can Appear So Different to Buyers and Sellers*, 27 J. CONSUMER RES. 360, 368-69 (2000) (exploring possible explanations for the endowment effect); Herbert Hovenkamp, *Legal Policy and the Endowment Effect*, 20 J. LEGAL STUD. 225, 238-47 (1991) (exploring the impact of the endowment effect in various legal contexts); Daniel Kahneman, Jack L. Knetsch & Richard H. Thaler, *Experimental Tests of the Endowment Effect and the Coase Theorem*, 98 J. POL. ECON. 1325, 1329-36 (1990) (finding the existence of an endowment effect when subjects were given coffee mugs and offered their cash equivalent); Russell Korobkin, *The Endowment Effect and Legal Analysis*, 97 NW. U. L. REV. 1227, 1229 (2003) (providing background on the endowment effect and analyzing its impact on legal analysis); Richard Thaler, *Toward a Positive Theory of Consumer Choice*, 1 J. ECON. BEHAV. & ORG. 39, 43-47 (1980) (labeling the common tendency to refuse to give up entitlements even when that entitlement would not have been purchased initially as the "endowment effect").

[11] Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 31-36; Buccafusco & Sprigman, *Valuing IP*, *supra* note 2, at 2-5. In a recent article, Gregory Klass and Kathryn Zeiler argue that some new experimental findings have undermined the previous work establishing the endowment effect, or at least undermined the model of an endowment effect based on loss aversion. Gregory Klass & Kathryn Zeiler, *Against Endowment Theory: Experimental Economics and Legal Scholarship* 3-5 (Georgetown Pub. Law Research Paper No. 13-013, Georgetown Law and Econ. Research Paper No. 13-005, 2013), *available at* http://ssrn.com/abstract=2224105. Klass and Zeiler criticize some methodological features of the earlier endowment effect studies; we have attempted to incorporate those criticisms – many of which appeared in earlier papers, *see* Charles R. Plott & Kathryn Zeiler, *The Willingness to Pay-Willingness to Accept Gap, the "Endowment Effect," Subject Misconceptions, and Experimental Procedures for Eliciting Valuations*, 95 AM. ECON. REV. 530 (2005) – into our own experimental designs. Klass and Zeiler also caution against using the term "endowment effect" to explain the WTA-WTP gap that arises in many situations. We appreciate their critique but continue to use the term because it is widely accepted in the behavioral science literature.

[12] This is a fact that the record companies have recently learned to their detriment, as consumers duplicate music files and share them, at virtually zero cost to themselves, with friends and strangers alike.

[13] *See supra* note 10.

the intangible right to earn money through it; thus, unlike in cases of tangible property, alienation is typically incomplete.[14] In light of IP's nonrivalrousness and the incomplete alienation that typically characterizes transactions in IP, we thought it possible that the valuation anomalies associated with the endowment effect would be mitigated, or perhaps even absent, from IP transactions. Why? Because the personal attachment to property or anticipated regret following its alienation that leads owners in endowment effect experiments to overvalue their property may not operate where the transaction does not involve the owner's complete *loss* of the property.[15]

Yet, unlike any experiment in the existing literature, the property we planned to study was not simply that with which owners had been "endowed," but instead property that *subjects had actually created themselves*. We suspected that subjects would feel significantly greater personal attachment to property that they had created compared to property they had been given. Consequently, we arrived at a second hypothesis in direct opposition to our first: the valuation anomalies associated with the endowment effect would be *even more pronounced* for owners of the property if they had actually created it.

In a series of experiments involving the creation of poems and paintings, we confirmed the second hypothesis and provided evidence for the existence of a "creativity effect" – the tendency of creators of goods to assign higher value to their works not only compared to would-be purchasers of the goods, *but relative also to mere owners* (that is, subjects who had not created the works, but to whom they had merely been given, as in previous studies).[16] This was a significant finding, because it suggests that there is something distinctive about the act of creativity that tends to magnify the valuation anomalies associated

[14] *See* Buccafusco & Sprigman, *Valuing IP*, *supra* note 2, at 4. Note that in certain types of IP transactions, alienation is as "complete" as in transactions involving tangible property – for example where the IP transaction involves sale of an article like an oil painting or a sculpture that has only been produced in a single copy. Of course, for most IP transactions, such as those involving novels, plays, songs, films, poems, photographs, computer software, or prints, the work at issue may freely be copied, and therefore alienation is incomplete in that it does not entirely deprive the seller of access to the work.

[15] Research even suggests that owning multiple, non-complementary units of the same good reduces the endowment effect for individuals, bolstering the case for nonrival IP to operate differently than more traditional market goods. *See* Katherine Burson, David Faro & Yuval Rottenstreich, *Multiple-Unit Holdings Yield Attenuated Endowment Effects*, 59 MGMT. SCI. 545, 546 (2013).

[16] Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 38-40; *see also* Nikolaus Franke et al., *The "I Designed It Myself" Effect in Mass Customization*, 56 MGMT. SCI. 125, 136-37 (2010) (reporting that subjects value self-designed products higher than non-self-designed products); Michael I. Norton et al., *The "Ikea Effect": When Labor Leads to Love*, 2-3 (Harvard Bus. Sch. Working Paper No. 11-091, 2011), *available at* http://www.hbs.edu/research/pdf/11-091.pdf (finding that investing labor in a project increases people's valuation of the results).

with the endowment effect. The creativity effect drives creators' WTA even further away from buyers' WTP, and in doing so it makes deals over creative goods more difficult to reach.

2. Design of Prior Experiments

Our earlier studies were designed to model the nature of IP markets, where the goods sold are not the underlying works themselves but simply the opportunity to seek rents through ownership of the rights. To do so, we established contests for creative works. In one such experiment, we solicited paintings for a contest that would be judged by an expert with the winning painting receiving a $100 prize.[17] The painters (Painters) of the works were told that they would be competing with nine other paintings for the prize. They were then told that their painting would be shown to another subject who had been recruited for the study. That subject (Buyer) would make the Painter a cash offer for the Painter's right to win the prize money if her painting was selected as the winner. The Painters were asked to indicate the least amount of money they would be willing to accept (WTA) to sell their painting's chance to win the prize. Each of the Buyers was then shown one of the Painters' paintings and told to indicate the most amount of money they would be willing to pay (WTP) to purchase the Painter's chance to win the prize. Finally, a group of subjects was recruited for the study to play the role of Owners. They were told that there would be a contest with a $100 prize and that, for purposes of the contest, they owned one of the paintings' chances to win the prize. They were then asked to indicate the least amount of money they would be willing to accept to sell their chance to win the prize. In no case would the ownership of the actual painting change hands; the parties were only transacting over the chance to win the prize.

3. Prior Results

Our data suggested a large gap between the WTA of the Owners of IP-style rights and the WTP of Buyers, consistent with previous research on the endowment effect. Furthermore, the data showed a large and significant gap between the Painters' WTA and the Owners' WTA. Thus, Painters' mean WTA was $74.59, Owners' mean WTA was $40.67, and Buyers' mean WTP was $17.39. Differences between each condition were significant at the $p = 0.05$ level.[18] These results suggested the existence of a creativity effect – a pricing anomaly that, unlike the endowment effect, is linked not merely to the ownership of property, but to *the creation of property*. The creativity effect explains why Painters demanded significantly more than Owners to transfer the chance of winning the prize. Authorship, our study suggests, produces a tendency to value creativity more highly than does mere ownership.

[17] Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 37-38.

[18] *Id.* at 40 & n.35.

These findings are significant for a number of reasons. First, they suggest that creators of IP place significantly higher value on their works than the neoclassical model predicts. Given the zero-sum nature of the contest, the mean WTA for the Painters should have been around $10 (reflecting a one in ten chance of winning a $100 prize if randomly selected). Interestingly, much of the observed overvaluation appeared to have come from Painters' substantial overoptimism in the probability that their work would win the prize. On average, they predicted that their paintings would have a 52.8% chance of winning.[19] Additionally, we found some evidence that Painters' regret aversion (their anticipated anxiety about having sold the winning painting) could have led to their higher valuations, but that evidence was merely suggestive.[20]

Second, and most importantly, our findings suggested that IP markets may be significantly less efficient than neoclassical law and economics accounts have previously supposed. These accounts propose that initial distributions of property will have little effect on ultimate distributions, at least in a world without transaction costs, because property will flow to its highest-valued use.[21] On the contrary, our findings indicate that initial distributions of IP may be sticky. The original owner of IP, very often its creator, will tend to systematically overvalue it compared to potential purchasers, resulting in a suboptimal number of wealth-maximizing transactions. In many instances, we believe, the creators of IP will refuse to sell or license their works or inventions even when doing so would be beneficial to both parties. Accordingly, in our previous publications, we offered potential remedies to bargaining impasses, including the wider use of liability rules across both copyright and patent, as well as changes to the copyright rules regarding formalities, works made for hire, and fair use.[22]

B. *New Experiments: The Value of Attribution and Publication*

Our previous research focused exclusively on the monetary value that the creators of IP assign to their works. As a considerable literature suggests, however, creators often seem to care about more than just the amount of money that they can earn through their work. Wikipedia authors and open-source computer programmers write without compensation, but they enforce

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[19] *Id.* For Owners and Buyers the predicted probabilities were 41.9% and 31.8%, respectively. *Id.* The differences between these probabilities were all statistically significant at the $p = 0.05$ level.

[20] *Id.* at 42-43.

[21] *See* Coase, *supra* note 8, at 10; Herbert Hovenkamp, *The Coase Theorem and Arthur Cecil Pigou*, 51 ARIZ. L. REV. 633, 646-47 (2009); Francesco Parisi, *Coase Theorem*, *in* THE NEW PALGRAVE DICTIONARY OF ECONOMICS 855-61 (Laurence E. Blume & Steven N. Durlauf eds., 2d ed. 2008).

[22] Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 44-52; Buccafusco & Sprigman, *Valuing IP*, *supra* note 2, at 42-43.

norms about attribution and credit.[23] Stand-up comics and chefs work in fields without strong IP protection, but they often insist upon receiving credit for their innovations.[24] These and other creators have a host of motivations that involve the desire to spread their ideas and the reputational value of being thought a successful artist or inventor in addition (or related) to monetary compensation.

Despite the importance that creators apparently attach to attribution, American IP law accords it very little recognition. Attribution is not one of the exclusive rights that U.S. copyright law gives to authors, except for a narrow provision, the Visual Artists Rights Act (VARA), conferring attribution rights on a small number of authors of valuable works of fine art.[25] But VARA is inapplicable to the vast majority of creative works, even ones that trade for significant sums.[26] For example, if a movie producer licenses a song to be included in a film, copyright law creates no formal requirement that the song's author be credited for it. And aside from the narrow protection offered by VARA, if authors subject to American copyright law wish to gain attribution rights, they must negotiate separately for them.[27]

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[23] *See* Fisk, *supra* note 1, at 88-92 (describing the norms governing attribution among programmers of open source software); Jon M. Garon, *Wiki Authorship, Social Media, and the Curatorial Audience*, 1 HARV. J. SPORTS & ENT. L. 95, 100-02 (2010) (describing the norms governing attribution among authors of Wikipedia articles).

[24] *See* Buccafusco, *supra* note 1, at 1151-54 (describing the norms governing attribution among chefs); Fauchart & von Hippel, *supra* note 1, at 191-94 (describing norms governing attribution among French chefs); Dotan Oliar & Christopher Sprigman, *There's No Free Laugh (Anymore): The Emergence of Intellectual Property Norms and the Transformation of Stand-Up Comedy*, 94 VA. L. REV. 1787, 1809-31 (2008) (describing the norms governing attribution among stand-up comics). For additional discussion of these issues, see RAUSTIALA & SPRIGMAN, *supra* note 1, at 178-79, 185-88 (describing how chefs, open source software programmers, and other creators value attribution).

[25] *See* H.R. REP. NO. 101-514, at 7-10 (1990) (describing the relationship of VARA to the Berne Convention). VARA gives the creators of certain categories of visual art a waivable right of attribution when those works are produced only in single works or in limited editions. 17 U.S.C. § 106A (2006).

[26] *See* 17 U.S.C. § 106A(b) (limiting the scope of VARA to works of visual art).

[27] For many years, American authors used trademark law to protect their right to be named as the author of their works. They claimed that the failure to include their names on their works amounted to illegal "passing off" of the goods as coming from another source. *See* Greg Lastowka, *The Trademark Function of Authorship*, 85 B.U. L. REV. 1171, 1200 (2005) (pointing out the "common belief that designations of authorship, like trademarks, could be determined to be true or false designations, could mislead consumers as to salient qualities of goods, and that protection under trademark law was thus required"). This practice came to an end, however, with the Supreme Court's 2003 decision in *Dastar Corp. v. Twentieth Century Fox Film Corp.*, 539 U.S. 23 (2003), which effectively terminated the use of trademark as a tool for obtaining attribution. The *Dastar* Court held that trademark law is prohibited from extending "passing off" protection to the sorts of "communicative products" that are regulated by copyright law. *Id.* at 28-33; *see also* Christopher Sprigman,

American copyright law's scant concern for attribution is mirrored, for the most part, in U.S. patent law. American law has long required that the inventor or inventors be named on the patent even if the invention was developed and motivated by the inventor's corporate employer.[28] The law has never required, however, that the inventor be given any form of credit for the invention as it is actually made, marketed, and used.[29]

The treatment of attribution, at least with respect to copyright, is different abroad. Compared with U.S. copyright law, authorial rights to attribution figure much more prominently in the copyright law of many of our principal trading partners. Most European countries extend to creators certain kinds of attribution rights,[30] and recently a number of American scholars have called for the U.S. to recognize some form of attribution right in its copyright law.[31]

Indirect Enforcement of the Intellectual Property Clause, 30 COLUM. J.L. & ARTS 565, 565-68 (2007) (suggesting that the result in *Dastar* represents the Supreme Court's tacit enforcement of limits on Congress's legislative authority under the Patent and Copyright Clause).

[28] *See* 35 U.S.C. § 111 (2006) ("An application for patent shall be made, or authorized to be made, by the inventor, except as otherwise provided . . . .").

[29] *See id.* §§ 111-115.

[30] *See, e.g.*, CODE DE LA PROPRIÉTÉ INTELLECTUELLE [C. PROPR. INTELL.] art. L. 121-1 (Fr.), *translation available at* http://www.wipo.int/edocs/lexdocs/laws/en/fr/fr062en.pdf (providing that "[a]n author shall enjoy the right to respect for his name, his authorship, and his work," and that "[t]his right shall attach to his person"); Gesetz über Urheberrecht und verwandte Schutzrechte [Urheberrechtsgesetz] [UrhG] [Copyright Act], Sept. 9, 1965, BGBL. I at 1273, §§ 13, 14 (Ger.), *translation available at* http://www.gesetze-im-internet.de/englisch_urhg/englisch_urhg.html#p0056 (providing that the author "has the right to be identified as the author of the work," may "determine whether the work shall bear a designation of authorship and which designation is to be used," and "has the right to prohibit the distortion or any other derogatory treatment of his work which is capable of prejudicing his legitimate intellectual or personal interests in the work"); Legge 22 aprile 1941, n. 633, in G.U. July 16, 1941, n. 166, art. 20 (It.), *translation available at* http://www.wipo.int/wipolex/en/text.jsp?file_id=128286 (providing that "the author shall retain the right to claim authorship of his work and to object to any distortion, mutilation or any other modification of, and other derogatory action in relation to, the work, which would be prejudicial to his honor or reputation").

[31] *See* Fisk, *supra* note 1, at 111 (proposing that "a right of attribution be regarded as an implied term of every employment agreement"); Jeanne C. Fromer, *Expressive Incentives in Intellectual Property*, 98 VA. L. REV. 1745, 1798 (2012); Jane C. Ginsburg, *The Right to Claim Authorship in U.S. Copyright and Trademarks Law*, 41 HOUS. L. REV. 263, 266 (2004) (proposing "an amendment to the U.S. Copyright Act to add a federal right of attribution of authorship"); Laura A. Heymann, *The Birth of Authornym: Authorship, Pseudonymity, and Trademark Law*, 80 NOTRE DAME L. REV. 1377, 1445-49 (2005) (advocating recognition of a form of attributional rights); Roberta Rosenthal Kwall, *The Attribution Right in the United States: Caught in the Crossfire Between Copyright and Section 43(A)*, 77 WASH. L. REV. 985, 988 (2002) ("[T]he adoption of an express right of attribution is the only approach capable of fully protecting the authorial interests that currently are insufficiently addressed under our legal system."); Greg Lastowka, *Digital*

Although there is substantial qualitative evidence that creators value attribution, there has, however, been no attempt to measure that value. Our experimental framework from the previous studies offered an attractive platform that could be adapted to explore the relationship between creators' interest in reputation and publication, on the one hand, and in monetary compensation, on the other.

1. Attribution in Law and Practice

Attribution – the label we use when we assign credit to a person's role in the production of a creative work – can have individual and social value for a number of reasons.[32] Attribution may be valuable to the individual producer of the work, for example, because receiving credit may help her obtain further employment in the field or sell more works in the future. We can think of this as attribution's *extrinsic value*. Separately, an individual may value attribution, because seeing her name attached to her work produces a positive psychic or emotional effect on her well-being.[33] We can call this attribution's *intrinsic value*. Finally, attribution may have some individual moral or ethical value to the producer of the work as a legal and social recognition of her relationship to the work.[34] We can call this attribution's *moral value*.[35]

Apart from its individual value, assigning attribution to creators may have *social value*. Connecting a creator with her work can aid consumers in making decisions about which products to buy,[36] and it can assist industries and individuals in assigning credit and blame to the successes and failures of products.[37] Throughout this Article, however, we are directly concerned with the ways in which attribution confers *individual value*.

The laws of most other countries, including many of the U.S.'s chief trading

Attribution: Copyright and the Right to Credit, 87 B.U. L. REV. 41, 84-85 (2007) (proposing that the fair use provisions in U.S. copyright law incorporate "the provision of attribution").

[32] For detailed treatments of the values associated with attribution, see Fisk, *supra* note 1, at 53-67, and Lastowka, *supra* note 27, at 1175-85.

[33] *See* ERIC S. RAYMOND, THE CATHEDRAL AND THE BAZAAR 64 (1999) ("The 'utility function' Linux hackers are maximizing is not classically economic, but is the intangible reward of their own ego satisfaction and reputation among other hackers."); Fisk, *supra* note 1, at 50 ("Credit is instrumentally beneficial in establishing a reputation and intrinsically valuable simply for the pleasure of being acknowledged.").

[34] *See* Kwall, *supra* note 31, at 986.

[35] We do not intend to suggest that these different values are mutually exclusive. They almost certainly are not.

[36] *See* Laura A. Heymann, *The Trademark/Copyright Divide*, 60 SMU L. REV. 55, 65 (2007); Lastowka, *supra* note 27, at 1179 ("Authorial attribution furthers the interests of consumers by reducing the costs of searching for creative content.").

[37] Fisk, *supra* note 1, at 61 ("[T]here are circumstances in which people think it important to plan for failure and to design attribution regimes whose purpose is to allocate blame.").

partners, give legal recognition to authors' interests in attribution,[38] but they have diverged on the precise content of the right. The United Kingdom provides authors of certain copyrightable works with a waivable right to be named as the author of their works in a clear and reasonably prominent manner.[39] Other countries, however, have established nonwaivable attribution rights. Most notably, France and Italy have statutorily granted authors a perpetual, inalienable right to attribution.[40] In addition, some countries (again, most notably, France) have granted some artists a *droit de suite* – that is, a right to royalties on the resale of works.[41]

Despite evidence that creators value attribution, as well as pressure from international treaty obligations, the U.S. has been reluctant to recognize strong forms of attribution rights, or indeed any other form of moral right. The paucity of formal IP protection for attribution rights in the U.S. does not, however, mean that creators are unable to obtain credit for their efforts; it simply means that creators must use the property rights that American IP law gives them as leverage to *negotiate* for attribution. Instead of being a subject of IP law, attribution in the U.S. becomes a subject of contract law and the operation of social norms that either favor or disfavor attribution within specific creative communities and industries.

In many creative fields, attribution is a matter of bargaining between initial creators and subsequent producers of content.[42] As in the example used at the beginning of this Article, the author desiring her name on the cover of the book

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[38] The Berne Convention for the Protection of Literary and Artistic Works is the primary reference for what are referred to in international law as the "moral rights" of creators. Berne Convention for the Protection of Literary and Artistic Works, *adopted* Sept. 9, 1886, *last amended* Sept. 28, 1979, S. TREATY DOC. NO. 99-27 (1989), 828 U.N.T.S. 221 [hereinafter Berne Convention]. Since 1928, the Berne Convention has codified moral rights of attribution (the author's right to have his name associated with his work) and integrity (the author's right to prevent mutilation or revision of his work). Berne Convention art. 6*bis*(1); *see also* Henry Hansmann & Marina Santilli, *Authors' and Artists' Moral Rights: A Comparative Legal and Economic Analysis*, 26 J. LEGAL STUD. 95, 97 (1997); Roberta Rosenthal Kwall, *Copyright and the Moral Right: Is an American Marriage Possible?*, 38 VAND. L. REV. 1, 10 & n.38 (1985). In conformance with the Berne Convention, many countries have included rights of attribution in their IP laws. *See supra* note 30.

[39] Copyright, Designs and Patents Act, 1988, c. 48, §§ 77-78 (U.K.); *see also* LIONEL BENTLY & BRAD SHERMAN, INTELLECTUAL PROPERTY LAW 244-49 (3d ed. 2009).

[40] C. PROPR. INTELL. art. L. 121-1 (stating that the right to attribution is "perpetual, inalienable, and imprescriptible") (Fr.); Legge 22 aprile 1941, n. 633, in G.U. July 16, 1941, n. 166, art. 22-23 (declaring both that the right is inalienable and that it "may be asserted, without limitation of time" by the creator's descendants and their descendants) (It.).

[41] *See, e.g.*, C. PROPR. INTELL. art. L. 122-8 (providing that "[a]uthors of graphic and three-dimensional works . . . have an inalienable right . . . to participate in the proceeds of any sale of such work") (Fr.).

[42] *See* Lastowka, *supra* note 27, at 1174 ("[A]uthors may use copyright as a lever to demand attributions of authorship.").

may insist on the inclusion of a contract provision providing for credit as part of the bargain she strikes with the publisher, and it may affect the price she gets paid for her work. Relatedly, creators in some fields, especially those involving computers and the Internet, often attach licenses to the use of their work that require attribution.[43] Many of these licenses are established by the Creative Commons organization.[44] Approximately ninety-eight percent of the people who choose Creative Commons licenses demand attribution; therefore, since 2004 Creative Commons has not offered a license that does not include an attribution requirement.[45]

In many industries, attribution practices are the subject of complex bargaining between parties.[46] In the movie industry, for example, who gets credit and how they receive it – including the order, font, and size of their names – are determined by contracts negotiated between the movie studios and the guilds representing the various members of the industry.[47] In some fields, attribution is governed by more or less formalized norms. Attribution practices for scientific research have been proposed by the International Committee of Medical Journal Editors.[48] The guidelines specify who should be named as a paper's author and in what order.[49] In other creative fields, norms governing attribution are less established. In graphic design and elite cuisine, for example, there appears to be little attempt to formalize the norms regarding attribution.[50]

The apparent value that creators attach to attribution has led to calls from a variety of scholars for enhanced legal protection for attribution and credit in the U.S. Interestingly, as Rebecca Tushnet observes, proponents of strengthened attribution laws come from both "high protectionist" and "low protectionist" camps.[51] On the one hand, high protectionists favor attribution rights as part of a broader mission of enhancing authors' opportunities for complete economic and moral control of their works.[52] On the other hand, low protectionists support attribution as a way of giving authors something they value while simultaneously pursuing a wider agenda of shrinking the scope of IP rules and expanding the range of uncontrolled and uncompensated uses

[43] Lastowka, *supra* note 31, at 59.

[44] *See id.* at 78-81.

[45] Glenn Otis Brown, *Announcing (and Explaining) Our New 2.0 Licenses*, CREATIVE COMMONS (May 25, 2004), http://creativecommons.org/weblog/entry/4216.

[46] *See* Fisk, *supra* note 1, at 77-101.

[47] *Id.* at 76-81.

[48] *Id.* at 83-84.

[49] *Id.*

[50] Fauchart & von Hippel, *supra* note 1, at 192-94; Fisk, *supra* note 1, at 86-87.

[51] Rebecca Tushnet, *Naming Rights: Attribution and Law*, 2007 UTAH L. REV. 789, 792-93.

[52] *Id.* at 793.

outside the reach of IP law.[53] Although the proposals for enhancing attribution rights diverge in many ways, support for legal recognition of some sort of right to attribution appears to be increasing. Despite this interest, there has been little previous study of the quantitative value of such a right, or whether installing such a right as the default rule in copyright or patent law would tend in general to ease or impede bargaining over rights to copy, distribute, and use creative works.

2. Modeling the Value of Attribution and Publication

If creators value opportunities for attribution and publication, then they should be willing to trade off some monetary return on their works in favor of those opportunities. It is possible, furthermore, that they value publication and attribution so much that the WTA-WTP gap that we have seen in our previous studies – that is, the creativity effect – disappears. Thus, if the composer of a musical work places so much value merely on the opportunity to have her song heard or to improve her reputation as a composer, she might not insist on very much money at all to transfer her IP rights in the song to someone who would like to include it in a Hollywood movie. As Greg Lastowka has suggested, open-source computer coding can be thought of in this way.[54] Open-source coders allow their work to be freely distributed to the public, but most open-source licenses have clauses requiring that users provide attribution to the code's creators. Although their coding potentially has positive economic value, coders set the price of access at the point where it maximizes reputational gains, that is, at $0.[55] The same can be said of those who use Creative Commons licenses that require attribution or of those who voluntarily write and edit Wikipedia entries.[56]

If this kind of attribution-based price discounting occurs often, IP markets may in fact be more efficient than we had given them credit for in our earlier work. Because creators are typically not given attribution rights by U.S. IP law, they will have to bargain for them. Presumably, this desire will drive down the price of licensing their works relative to licenses that do not provide for attribution and will shrink the gap between creators' WTA and buyers' WTP, resulting in more efficient transacting. Similarly, if creators value the prospect of publication *even without their name attached*, then we should see an analogous publication-based price discounting. But whether we will in fact see this is unclear. It is possible that some creators will resist the idea of having their work published without attribution. They might believe that it is inappropriate or immoral for the work to be published without an indication of its creator.[57] Accordingly, such creators would be less attracted to publication

[53] *Id.* at 792-93.

[54] Lastowka, *supra* note 31, at 59.

[55] *Id.*

[56] *See* Garon, *supra* note 23, at 107-08.

[57] The attractiveness of attribution requirements in Creative Commons licenses suggests

without attribution than they would be to monetary compensation standing alone. Both of these possibilities receive at least anecdotal support.[58]

The experiments reported below test these propositions. Following earlier literature, we assume that creators value opportunities for publication and for attribution. Accordingly, when given a chance to trade off monetary compensation for those opportunities, they will do so, resulting in lower WTA numbers that are closer to the prices that prospective buyers might be willing to pay for them.

It is worth commenting on one of the assumptions of this model. Earlier we explained that creators might value attribution for economic or moral reasons. They might desire attribution as an opportunity to achieve greater financial or artistic success in the future, and they might desire attribution because they believe they have some ethical right to have their names attached to their works. Although one of these preferences is economic and the other moral, we assume that whichever reason the creator has for valuing attribution, she will be willing to engage in market exchanges to receive it.

II. THE CURRENT STUDIES

We performed three separate experiments to test the propositions discussed above. The first two studies tested the value that creators attach to attribution and publication. They used the same methods, but employed different samples. The first involved "lay" creative subjects, those who indicated an interest in photography. The second involved professional and serious amateur creators. The third study, which employed a wholly different experimental design, explored the economic effects of creating a waivable default attribution right.

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as much. *Cf. id.* at 108.

[58] *Compare, e.g.*, *Ghostwriting FAQ*, DENNIS LOWERY, http://www.dennislowery.com/blog/ghostwriting-faq.html (last visited May 22, 2013) ("Q: Does the ghostwriter get a credit on the book? As mentioned above, depending on the arrangement, attribution or even co-author credit could be negotiated. If the author/client will give the ghostwriter attribution or credit their contribution, the fee decreases or they can choose to have their name solely on the book at the standard ghostwriting rate."), *and 7 Questions to Ask Before You Hire a Ghostwriter*, BOBBI LINKEMER, http://www.writeanonfictionbook.com/ARTICLES/7_Question_Ghostwriter.html (last visited May 22, 2013) ("Acknowledgement in print is often considered part of the fee."), *with* Julia Moskin, *I Was a Cookbook Ghostwriter*, N.Y. TIMES, Mar. 13, 2012, at D1 ("Because cookbook ghostwriting brings low pay, nonexistent royalties (most writers are paid a flat fee, or a percentage of the advance doled out by the publisher) and only a few perks, most ghosts don't last long. When a ghosted book is successful, watching someone else get credit for your work is demoralizing.").

A. *Experiment 1: Valuing Attribution – Mechanical Turk Study*

1. Mechanical Turk Methods

For the first experiment, we recruited 200 participants using Amazon Mechanical Turk (mTurk), a service that connects people with online "human intelligence tasks" (HITs).[59] We listed a HIT on mTurk titled "Aspiring Photographers Wanted for a Contest and Study About How People Use Digital Photos." We also provided a short description of the task.[60]

mTurk participants were directed to the Qualtrics survey website,[61] where they consented to participate in the study. They uploaded a digital photograph they had taken themselves, and were instructed that it was not to include any other people.[62] The contest rules appeared next; participants learned that their picture would be judged against ninety-nine other photographs by a photography expert and that the winning photograph would receive a prize of $1000.

At this point, the participants were randomly assigned to one of three conditions, described below.

a. *Contest Condition*

In this condition, participants were told that their photograph would be viewed by a buyer before any judging would take place. The buyer would make a cash offer which, if accepted by the photographer, would result in the transfer of the opportunity to win the $1000 prize from the photographer to the buyer. The offer was not for the photograph itself, but only for the right to be paid the prize if the photograph was judged the winner. We will refer to this as the photograph's *contest rights*.

Once informed of the rules, the photographer's WTA was elicited, that is, she was asked to specify the lowest amount she would accept to sell her photograph's contest rights. She was told that if the buyer's offer for her photograph's contest rights was higher than her WTA, then she would automatically receive that offer in cash payable through mTurk, and she would

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[59] AMAZON MECHANICAL TURK, https://www.mturk.com/mturk/welcome (last visited May 22, 2013) ("Mechanical Turk is a marketplace for work. We give businesses and developers access to an on-demand, scalable workforce. Workers select from thousands of [HITs] and work whenever it's convenient.").

[60] Subjects were told: "You will upload a digital photo of nature that you've taken and answer some questions about it. Your photo will then be entered in a contest and judged by photography experts. Prizes may include cash and/or publication on a major website."

[61] QUALTRICS, http://www.qualtrics.com (last visited May 22, 2013).

[62] This proviso was included to allay privacy concerns raised by the University of Virginia's Institutional Review Board for Social and Behavioral Sciences (IRB), which was the human subjects research review body that approved this study. *See Institutional Review Board for Social & Behavioral Sciences*, U. VA., http://www.virginia.edu/vpr/irb/sbs (last visited May 22, 2013).

not receive the $1000 should her photograph win the contest. If the offer was lower, then she would not receive any cash from the buyer but could still receive the $1000 if her photograph won. This condition replicated those used in our previous studies of the creativity effect.[63]

b. *Publication Condition*

The price elicitation and offer structure in the second condition were identical to the Contest condition. The change from the first condition involved the prize being offered. In the Publication condition, the photographers were offered the opportunity to have their photo *published, uncredited*, on a major website. But the possibility of publication would arise only if the photograph (1) had been sold to the buyer and (2) it won the contest. That is:

- If the photographer's WTA was lower than the buyer's offer, then the photographer would receive the offer in cash. If the photograph then won the contest, the photographer would not receive the $1000 but would have the photograph published, albeit without the photographer's name.

- If the photographer's WTA was higher than the offer, then the photographer would receive no cash from the buyer. If the photograph won the contest, the photographer would receive the $1000 prize, but the photograph would not be published.

c. *Attribution Condition*

This condition was identical to the Publication condition, but if the conditions specified above were met, the photograph would be published *along with the photographer's name*. Again, if the photographer's WTA was lower than the offer, she would receive the cash offer. If the photograph won the contest, the photographer would not win the $1000 prize but would have the credited photograph published. If the WTA was higher than the offer, then the photographer would not receive the cash offer. If the photograph won the contest, then the photographer would receive the $1000 prize, but not have the credited photograph published.

We structured the conditions this way in order to determine whether our photographer subjects valued publication and attribution, and whether their attraction to these prospects would reduce their WTA relative to a situation in which publication and attribution were not available. If they attached a significant value to the prospect of publication, then we would expect to see subjects in the Publication condition report lower WTA than those in the Contest condition. If they attached a significant value to the prospect of

[63] *See* Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 34-35; Buccafusco & Sprigman, *Valuing IP*, *supra* note 2, at 17-31.

attribution, we would expect to see subjects in the Attribution condition report lower WTA than in both the Publication and Contest conditions.

After the rules were explained, and comprehension checked, participants entered their WTA. Participants were asked a series of questions about their perceptions of the quality of their photographs and their emotional attachment to them.[64] We also asked several demographic questions. Participants were then thanked, and the experiment ended. Unlike in our previous studies, we did not recruit a separate pool of buyers in this experiment since our interest was only in the differences between creators' WTA.[65]

2. Mechanical Turk Results

Of the 200 participants recruited using mTurk, twenty were excluded for answering one or both of the rule comprehension questions incorrectly. Based on the scholarly literature reviewed above, we hypothesized that creators would find the prospect of publication with attribution to be the most valuable, and that the WTA for the Attribution condition would thus be significantly lower than in the Publication or Contest conditions.[66] Our hypotheses with respect to the Publication condition were less clear. If subjects valued the opportunity to get their work "out there" even without their names attached, then WTA in the Publication condition should be lower than in the Contest condition. But if subjects were indifferent to the opportunity for publication without credit or, moreover, if they were hostile to the idea, then WTA in the Publication and Contest conditions should not diverge.

We first compared participants in either the Contest or Publication condition, on the one hand, with those in the Attribution condition, on the other. This comparison allowed us to assess the subjects' behavior in the conditions where attribution was not available (Contest, Publication) versus the condition where it was (Attribution). The subjects in the Attribution condition did, as expected, report a *significantly lower* WTA than Contest or Publication subjects – that is, subjects in the two conditions where there was no prospect of attribution (Contest/Publication M = \$202.26, Attribution M = \$132.28, $t(180) = 1.98$, $p = .05$). Thus, when subjects were offered a chance to receive credit

[64] The questions were as follows:

"How good is your photograph?" Responses were elicited on a seven point Likert scale ranging from 1 (Very Bad) to 7 (Very Good).

"What are the chances (the probability) that your photograph is going to win the prize?" Responses were elicited on a 0-100 slider scale, indicating a percentage.

"How would you rate your level of personal and emotional investment or attachment to your photograph?" Responses were elicited on a seven point Likert scale from 1 (Very Low) to 7 (Very High).

[65] We received permission from the IRB to engage in this minor deceit, and subjects were told about it at the end of the experiment.

[66] Recall that because of the way our study is designed, attaching a higher value to attribution should result in a *lower* WTA in the Attribution condition, because creators are willing to sacrifice more monetary compensation in order to receive attribution.

along with publication of their work, they significantly reduced the amount of money they were willing to accept to part with their chance to win the $1000 contest compared with the WTA reported when they were not given a chance to receive credit. Furthermore, participants in the Attribution condition reported lower WTA than participants in the Publication condition standing alone (that is, not grouped with the Contest condition) (Publication M = $226.76, Attribution M = $132.28, $t(180) = 1.97$, $p = .052$), and this difference was on the edge of significance.

Interestingly, the other dyadic comparisons were not significant at the $p = .05$ confidence level. Subjects' WTA in the Attribution condition was lower than in the Contest condition but only at the $p = .10$ level of significance. The difference between Publication and Contest was also significant at $p = .10$, *but in the wrong direction*: subjects' WTA for publication without credit was *higher* than it was merely for the chance to win the prize. These results are summarized in Table 1 and Figure 1 below.

Table 1.

Condition	**N**	**Mean**	**SD**
Contest	60	177.35	260.86
Publication	61	226.76[a]	330.58
Attribution	59	132.28[a,b]	174.92
Contest + Publication	121	202.26[b]	297.85

Figure 1.

a: means differ at a $p < .10$ level

b: means differ at a $p = .05$ level

3. Mechanical Turk Discussion

We draw several conclusions from these results. First, they align with what we have found in previous related experiments[67] involving poems and paintings – that is, the creators of works value them substantially more than the neoclassical model predicts.[68] Our photographers behaved similarly to the

[67] Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 36-43; Buccafusco & Sprigman, *Valuing IP*, *supra* note 2, at 17-25.

[68] When reporting our previous results, commentators occasionally asked whether the heightened valuation data were based on the relatively low size of the prizes. Perhaps, they thought, subjects were particularly risk-seeking with low value ($100) prizes and would be more rational with a larger amount of money at stake. The results of this study suggest that this is not the case. With a $1000 prize, subjects valued their works significantly more than the rational expected value of the prize. For more discussion of this point, see *infra* note 72.

poets and painters in our previous experiments, and set their WTA significantly higher than their expected mean value. We did not have subjects act as buyers in this protocol, but given the enormous spread between the rational expected value of the contest chance ($10) and the subjects' WTA, which varied on average between $132 (Attribution) and $226 (Publication), we strongly suspect that there would be a very large gap between sellers and buyers were we to modify the protocol to include subjects acting as buyers.[69] Thus, although they are not a direct confirmation of our previous findings (because of the different protocols used), our results do align with and support what we have found previously.

Our main finding is that the prospect of publication with attribution results in a significantly lower WTA compared to the WTA reported by subjects in the Contest and Publication conditions pooled together. This finding suggests that the prospect of publication with attribution has a modest but nonetheless statistically significant effect of reducing WTA compared to a situation where subjects are not offered the prospect of publication with attribution.

Interestingly, the Contest and Publication conditions showed no significant difference. Recall that we were uncertain whether subjects would find uncredited publication attractive enough to meaningfully reduce their WTA. The WTA reported by subjects in the Publication condition was, on average, *higher* than the mean WTA reported in the Contest condition. Why might this be? Perhaps subjects found *unattractive* the prospect of publication of their photo without attribution.[70] This is consistent with the Creative Commons data

[69] These gaps are consistent with data from another study we conducted, which was identical to the one reported here, except that the prize was for $50 and there were ten photographs competing for it, yielding an expected value of $5 per entry. In that study, the mean valuations were:

Contest = $23.15 (46.3% of the total prize)

Publication = $21.46 (42.9% of the total prize)

Attribution = $19.32 (38.6% of the total prize)

When we compare the Attribution condition with the two non-attribution conditions combined, the difference in mean values is marginally significant ($p = 0.058$). These ratios are reasonably consistent both with the results reported in our prior experiments and with our results in the experiments reported in this Article. For more discussion of these issues, see *supra* note 68 and *infra* note 72.

[70] Note that the publication condition signals two different things to an IP creator, which would have different impacts on the WTA measure. First, the opportunity to have a photo published should obviously decrease a photographer's WTA (if she values being published at all). Because it was necessary to explicitly state that the photographer would *not* receive any attribution in this condition, however, this should raise the photographer's WTA, as it is less valuable to be published without attribution than with attribution. Depending upon which signal was stronger, a photographer could reasonably have a higher WTA, especially under an assumption of "coherent arbitrariness." *See infra* Part II.C (Experiment 3).

That there are two signals operating in opposite directions is evidenced by Levene's test for equality of variances. There was marginally more variance in the publication condition than the contest condition ($F(1, 180) = 3.27$, $p = .073$). This indicates that there was

described in Part I.B.1 regarding the minimal attractiveness of licenses that did not require attribution.[71] Given the strong preference for attribution, publication without attribution may be viewed negatively, which would account for the higher average WTA in the Publication condition versus the Contest condition. But the difference, it must be remembered, was not significant at the .05 confidence level (but it was significant at the .10 level), so it is also possible that the higher WTA in the Publication condition was driven by chance rather than the difference between the conditions.

We were also surprised that the Contest/Attribution dyad did not manifest a significant difference: although WTA in the Attribution condition was lower than in the Contest condition, that difference was not significant at the .05 confidence level (but it was significant at the .10 level). Given the weakness of this association, and given the borderline significance in the Publication/Attribution dyad, we read these results to suggest that the subjects in the mTurk study, who were not professional photographers but were selected to be representative of the general population, had at best a modest desire for publication with attribution. These results may suggest that nonprofessional creators place some value on the prospect of credited publication, but that attribution is not likely to serve as a complete curb on the tendency of non-professional creators to overvalue their works.[72]

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marginally more disagreement between photographers on the proper valuation of publication as compared to the proper valuation of the contest.

[71] Indeed, since 2004, all Creative Commons licenses require attribution as a condition of use as there was insufficient demand for licenses that did not. *See supra* note 45 and accompanying text.

[72] Subjects in all conditions reported WTA significantly higher than what a rational choice model would predict ($10). These results align, as we have already noted, with the findings of our previous experiments. Nonetheless, we can check whether the subjects understood the basic structure of the task by comparing what the subjects reported regarding their self-perceived probability of winning the contest with reported WTA. If the subjects understood the task, as the former increases, so too should the latter. And we do see a strong association between subjects' reported percentage chance to win and their WTA: the coefficient of correlation (r) between the probability of winning and WTA is .38, which is significantly different than 0, and indeed the reported probability of winning emerges as by far the most predictive factor of WTA in a regression analysis.

We should note that although the strong correlation between the subjects' perceived probability of winning the contest and their WTA suggests that the participants understood the task and behaved rationally given their perceptions of their chances, the subjects' subjective perception of the likelihood that they would prevail are, on average, significantly overoptimistic. Only 5.6% of the sample reported that they believed their probability of winning was 1% or lower, the probability if the judges picked the winner of the contest at random. Fully 47.2% of the sample responded that their chances of winning were *better* than 50%. As an illustration, a well-calibrated, rational sample could have at most two participants reporting their chances were 50% and the rest reporting 0. A well-calibrated, rational sample will have a sum of probabilities of winning (for 180 subjects, each of whom was led by the experimenters to believe that he had a 1% average chance of winning) of

B. *Experiment 2: Valuing Attribution – Professional and Advanced Amateur Photographers*

1. Methods and Results

We turned next to investigate whether professional and advanced amateur photographers would behave differently from the casual snapshooters in our mTurk subject pool. We recruited eighty-eight participants with the aid of two photography affinity groups, the Charlottesville Photography Initiative (CPI), a membership group of professional and advanced amateur photographers based in Charlottesville, Virginia, and Photo District News (PDN), the largest U.S. monthly magazine for professional photographers. In contrast to subjects in the mTurk sample, who reported spending an average of 5.56 hours per week on photography, the participants in the CPI/PDN sample reported spending an average 21.24 hours per week on photography. Fully 72.4% of subjects in the CPI/PDN sample reported spending at least ten hours per week on photography, compared to the 81.7% of subjects in the mTurk sample who spent fewer than ten hours per week on photography.

The study design was identical to that used for the mTurk participants, with subjects randomly assigned to the Contest, Publication, or Attribution conditions. Eleven participants were excluded from analysis due to failure to understand the rules of the experiment. The remaining seventy-seven participants showed a pattern somewhat different from the mTurk sample. As with the mTurk subjects, participants in the Attribution condition reported a WTA lower than that reported by the pooled Contest and Publication subjects, and the difference was on the edge of significance at the .05 level (Contest/Publication M = 380.44, Attribution M = 234.79, $t = 1.97$, $p = .052$). Unlike in the mTurk study, however, the dyadic comparisons revealed that participants in the Attribution condition reported significantly lower WTA than those in the Contest condition (Contest M = 440.25, Attribution M = 234.79, $t = 2.098$, $p = .044$). Compared to the condition in which creators were merely offered a chance to win the $1000 prize, subjects who were offered a chance to have their photographs appear in a major media outlet with their names attached reduced their WTA by almost fifty percent.

Interestingly, in this sample of professional and serious amateur photographers, the pattern of the WTA responses was consistent with the

180%. Compare that to the sum of probabilities observed – which amount to 7862.4% (!) – and you begin to understand the extent to which overoptimism shapes our results.

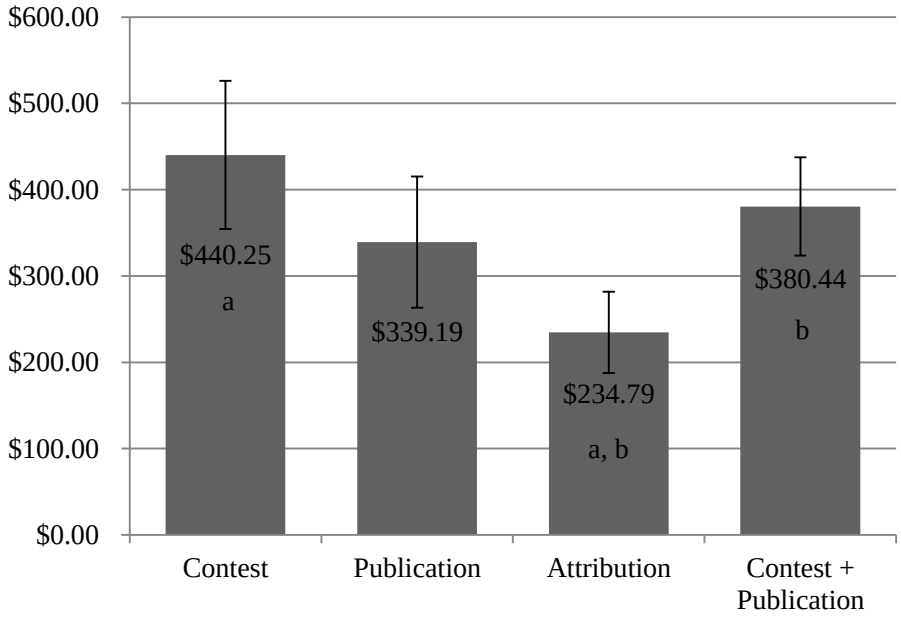
Additionally, and importantly, none of the other measures differed as a function of condition. If the subjects understand the task correctly, their predicted probability of winning should not change between conditions, as the assumptions about the likelihood of winning (for example, how many other participants there are, the estimated quality of the other participant's photos, and so forth) do not vary. The fact that perceived probability of winning stays roughly constant across conditions suggests that differences in WTA are being driven by the individual's valuation of publication and attribution.

hypothesis that creators attach some positive value to publication even in the absence of attribution, although the data, given our smaller sample size, do not reach statistical significance (Contest M = $440.25, Publication + Attribution M = $287.90, $t = 1.66$, $p = .10$). It is possible that a larger sample would reduce the variability of our data resulting in significant differences between Contest and Publication and between Publication and Attribution.[73] These results are summarized in Table 2 and Figure 2 below.

Table 2.

Condition	N	Mean	SD
Contest	20	440.25[a]	384.20
Publication	29	339.19	409.04
Attribution	28	234.79[a,b]	248.90
Contest + Publication	49	380.44[b]	398.18

Figure 2.



[73] Once again, differences in the other dependent variables failed to emerge between conditions. Most important, participants were not more likely to believe in their probability of winning the contest as a function of the condition, nor did their valuation of the nonmonetary benefits of winning the contest vary.

a: means differ at a $p < .10$ level

b: means differ at a $p < .05$ level

2. Discussion

As in the mTurk study, the CPI/PDN study broadly aligns with our previous experiments involving poems and paintings.[74] In all of these instances, creators reported WTAs that were, on average, far above what the rational choice model would predict. And in the CPI/PDN study, professional and advanced amateur photographers reported average WTAs that were *even higher* than the significantly inflated WTAs reported by the casual snapshooters in the mTurk study. One might hypothesize that the subjects in our CPI/PDN study would have reported lower WTAs than those in the mTurk study because they had, on average, far more experience as photographers and would therefore have a more realistic appraisal of their photograph's chance of winning the contest. But we saw no such effect.[75]

Second, and most important, the data from the CPI/PDN subjects suggest that professional and advanced amateur photographers place a somewhat greater value on the prospect of publication with attribution compared with their mTurk counterparts. CPI/PDN subjects' WTA in the Attribution condition was lower by a significant amount compared to the Contest subjects' WTA. This is fairly strong evidence that creators attach some substantial value to credited publication of their work.

Using the subjects' responses, we can roughly calculate the value they attach to the prospect of publication with attribution. The difference in mean WTA between those in the Attribution condition and those in the Contest condition is $205.46. But the photographers only would have received attributed publication if their photograph won the prize. Thus, the average value they assigned to attribution can be thought of as the difference between the conditions' means divided by subjects' perceived chance of winning the prize. Across conditions, subjects' mean expected probability of winning the prize was 49.5%. Accordingly, the creators' behavior indicates that they valued attribution at $415.07.[76] We observe a similar pattern, though to a lesser

[74] *See* Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 43; Buccafusco & Sprigman, *Valuing IP*, *supra* note 2, at 25.

[75] If anything, the opposite proved to be the case: the CPI/PDN subjects reported an even higher perceived likelihood of winning the contest, though not significantly so (mTurk M = 43.68 (27.58), CPI/PDN M = 48.42 (32.80), $t = 1.11$, *n.s.*). This even more intense overoptimism translated into higher WTA: again, we found a powerful correlation between the perceived chance of winning and WTA (mTurk $r = .239$, CPI/PDN $r = .383$, both coefficients of correlation being significant at the .001 level).

[76] This is consistent with research showing that 50% probability often represents "epistemic uncertainty," rather than an actual estimation of a 0.5 probability of the event occurring. *See* Wändi Bruine de Bruin et al., *What Number is "Fifty-Fifty"?: Redistributing*

degree, in the mTurk sample. The difference in WTA between the Contest and Attribution conditions was $45.07, and the estimated probability of winning across conditions was 42.38%, indicating a valuation of attribution of $106.35. Again, this is broadly in line with what we would expect and what our overall results suggest: our professional and advanced amateur photographers value attribution far more than do our casual snapshooters.

We should emphasize, however, that although the prospect of publication with attribution does meaningfully reduce WTA, the subjects in the Attribution condition still reported a mean WTA enormously in excess of what the rational choice model would predict ($234.79 compared to an expected value of $10). Thus, at least based on this study, we do not believe that the prospect of attribution is sufficient to eliminate the creativity effect shown in previous experiments.

A third, related observation arises from a comparison of subjects' WTA in the mTurk and CPI/PDN studies with those reported in the earlier poetry and painting studies. Mean WTA in every condition in both the mTurk and CPI/PDN studies exceeded the average rational choice expected value of the prize by a multiple far greater than mean WTA reported in either the poetry or painting studies.[77] Why might this be?

One difference between those studies was the size of the prize offered for winning the contest. In the poetry and painting studies, these were $50 and $100, respectively, and both prior studies involved contests with 10 participants, so the average rational choice expected value of the prize in those studies was therefore $5 and $10, respectively.[78] In the mTurk and CPI/PDN studies, by contrast, the contest offered a $1000 prize with a pool of 100 participants, resulting in an average expected value of $10. In each study, creators' WTA was a multiple of the rational expected value, but the multiples grew along with the size of the prize on offer.[79] One might have hypothesized

Excessive 50% Responses in Elicited Probabilities, 22 RISK ANALYSIS 713, 714 (2002)); Barauch Fischhoff & Wändi Bruine de Bruin, *Fifty-Fifty = 50%?*, 12 J. BEHAV. DECISIONMAKING 149, 150 (1999). We do use a slider scale that represents the entire range from 0% to 100%, which Fischhoff and Bruine de Bruin show reduces (but does not eliminate) this response bias. Obviously, it would be highly irrational for subjects to believe they have a 50% chance of winning a contest with 100 entries. Nonetheless, subjects' probability estimates do vary consistently with increases or decreases in their WTA amounts.

[77] Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 39 (reporting a mean WTA for painters of $74.59 for a prize with a rational expected value of $10); Buccafusco & Sprigman, *Valuing IP*, *supra* note 2, at 22, 24 (reporting a mean WTA for poem authors of $22.90 in the "eyes closed" contest, $20.05 in the "eyes open" contest, and $18.92 in the lottery experiment for a prize with a rational expected value of $5).

[78] Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 37; Buccafusco & Sprigman, *Valuing IP*, *supra* note 2, at 19.

[79] The results seem fairly large in absolute dollar amounts. Relative to the total possible prize (which was the maximum amount they could report), however, the rates were on a par

that a larger prize would focus subjects' attention on the value of their chance and would therefore move subjects' WTA closer to the rational choice value. Alternatively, one might have hypothesized that a larger prize would be so attractive to subjects, and the prospect of winning so alluring, that the subjects' average WTA would grow along with the prize. This second hypothesis obviously fits better with our data: our subjects appear to be focusing substantially more on the magnitude of the prize than on the probability of winning it.[80] Of course, we have not yet tested this proposition directly, and our results are therefore, on this point, only suggestive. Nonetheless, our findings raise the possibility that the larger average valuation in this study relative to our earlier work means that in IP markets in which the "winner" can expect to reap large rewards, creators will be especially prone to overvalue their chances of prevailing, and consequently the value of their work.

C. *Experiment 3: Studying a Default Attribution Right*

The results of the experiments reported above indicate that creators value attribution and are willing to sacrifice financial benefits to obtain it. These results could have important implications in the debate about default attribution rights in IP law. Those studies did not, however, specifically test the effects of creating a default attribution right similar to what we find in the copyright laws of many European countries, a feature that some have suggested American law should adopt. In order to enter more directly into the debate over attribution rights, we conducted a third study, employing a wholly different research protocol, to evaluate the economic effects of a default waivable attribution right.

Default rules, which dictate legal outcomes when parties are silent, are a prominent feature of the law, and they have been widely studied by social scientists and legal scholars.[81] According to economic theory, in the absence of

with the previous results. In the current studies, the WTA averages range from 13.23% to 22.68% (mTurk sample) and from 23.48% to44.03% (advanced and professional samples) of the total possible prize. For comparison, the IP creators in the painting study reported an average WTA of 74.59% of the $100 prize, while the IP creators in the poetry study reported WTA averages of 37.84% to 45.80% of the $50 prize. *See supra* note 77.

[80] For similar findings, see Yuval Rottenstreich & Christopher K. Hsee, *Money, Kisses, and Electric Shocks: On the Affective Psychology of Risk*, 12 PSYCHOL. SCI. 185, 188 (2001) (finding that the typical subject was willing to pay $10 to avoid a 99% chance of a painful electric shock, and $7 to avoid a 1% chance of the same shock).

[81] *See, e.g.*, RICHARD H. THALER & CASS R. SUNSTEIN, NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS 83-87 (2008); Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 YALE L.J. 87, 91 (1989); Omri Ben-Shahar, *A Bargaining Power Theory of Default Rules*, 109 COLUM. L. Rev. 396, 396 (2009); Omri Ben-Shahar & John A.E. Pottow, *On the Stickiness of Default Rules*, 33 FLA. ST. U. L. REV. 651, 651 (2006); Russell Korobkin, *The Status Quo Bias and Contract Default Rules*, 83 CORNELL L. REV. 608, 611-12 (1997); Jason Scott Johnston, *Strategic Bargaining and the Economic Theory of Contract Default Rules*, 100

transaction costs, default rules should have no effect on people's behavior. If the parties to a contract, for example, would prefer a rule other than the one stipulated by the default, they will simply contract around the default.[82] The same goes for other kinds of default rules, such as those dealing with organ donation, employee benefit plans, and insurance rates.[83] Imagine that the default rule regarding organ donation is not to donate, but you only have to check a box to become an organ donor (a small transaction cost). Under these conditions, it seems that if you want to be an organ donor, you will simply check the box. And the opposite should be true if donation is set as the default but you don't want to donate: you'll check the box removing yourself from the donor list.

In dozens of studies, however, this economic assumption has been rejected.[84] Default rules are often incredibly "sticky": even when transaction costs are low or nonexistent, people tend to stay with the default selection rather than switching.[85] For example, in an experiment testing organ donation rates, when the default rule was set as nondonation and subjects had to click a box to become a donor, only forty-two percent did so.[86] When the default was changed to donation, however, eighty-two percent agreed to be donors.[87] Similar findings emerge from the real world.[88] These results suggest that the default rule can have significant effects on human behavior. We explore some of the reasons why below.[89]

Our third study is the first to test the power of a waivable default attribution right for IP. The study is designed to test not only the power of different default rules but also the economic value of the difference between them.

1. Methods

For this study, we again recruited subjects from mTurk, advertising for subjects who were aspiring photographers interested in having their work

YALE L.J. 615, 615-16 (1990).

[82] Korobkin, *supra* note 81, at 611.

[83] *See* THALER & SUNSTEIN, *supra* note 81, at 159-82.

[84] *See, e.g.*, Cass R. Sunstein, *Switching the Default Rule*, 77 N.Y.U. L. REV. 106, 133 (2002).

[85] *See* THALER & SUNSTEIN, *supra* note 81, at 34-35; Daniel Kahneman et al., *Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias*, J. ECON. PERSP., Winter 1991, at 193, 197-98 (1991); Korobkin, *supra* note 81, at 625-30; William Samuelson & Richard Zeckhauser, *Status Quo Bias in Decision Making*, 1 J. RISK & UNCERTAINTY 7, 8 (1988).

[86] Eric J. Johnson & Daniel Goldstein, *Do Defaults Save Lives?*, 302 SCIENCE 1338, 1338 (2003).

[87] *Id.*

[88] *Id.* (observing that in Germany, where the default is not to donate, only twelve percent of people do so, but in Austria, where the default is donation, ninety-nine percent of people do).

[89] *See infra* Part III.

entered into a contest. They were offered $2 for participating. Potential subjects were directed to a Qualtrics website where the experiment was hosted. After reading a consent form, subjects were asked to upload a photograph of nature that they had taken. Subjects were then randomly assigned to one of two conditions.

In the first condition, which we will refer to here as "Default Attribution," subjects were told that their photograph, along those of four other participants, would be shown to a graphic designer who was participating in a design contest with a prize of $200. In order to participate in the design contest, the designer needed to purchase the rights to use one of the five photographs as the basis for his design. Subjects were told that the designer might edit and crop the image and add text and other graphics to it. In order to use one of the images, the designer would have to strike a deal with the photographer.

Subjects in the first condition were told that if they made a deal with the designer and the designer's creation won the contest, the finished design would appear on a major website *with both the designer's and the photographer's names*. The photographer would receive the agreed upon price for the photograph, but she would not be eligible to win the $200 contest prize. The subjects were then asked to indicate the least amount of money they would be willing to accept to allow the designer to use their photograph (WTA:Att).

After entering WTA:Att, the subjects were then directed to a new screen. Here they were told, "Some designers have indicated that they do not want to share credit for the design with the photographer." Subjects were then reminded of their WTA:Att. Then they were told, "Now you will be asked to indicate the least amount of money you would be willing to accept to allow the designer to use your photograph without credit. If you do not care about credit, you can put the same price." They were then asked to specify the least amount of money they would be willing to accept to allow the designer to use the photograph without attribution (WTA:NoAtt). Subjects were then asked a series of follow-up and demographic questions.

Photographers in this Default Attribution condition were, in effect, selling their default right to attribution. Based on our findings from the previous studies, we expected that they would demand more money for an uncredited use of their image than a credited use (WTA:NoAtt > WTA:Att).

In the second condition, which we will refer to here as "No Default Attribution," the statements regarding credit were reversed. On the first screen, subjects were told that if they licensed the photograph and the design won the contest, the final design would appear on a major website *with only the designer's name*. Subjects were then asked for their willingness to accept this uncredited use (WTA:NoAtt). On the next screen they were told, "Some designers have indicated that they are willing to share credit for the design with the photographer." The subjects were reminded of their WTA:NoAtt and were asked to indicate their WTA with credit (WTA:Att). They then answered a series of follow-up and demographic questions.

In the No Default Attribution condition, subjects were, in effect, buying attribution. Again, our previous studies indicated that since attribution has economic value for creators, they should be willing to pay something to receive it. They could manifest their willingness to pay for attribution by reducing the amount they were initially willing to accept for uncredited use of the photo (WTA:NoAtt > WTA:Att).

2. Results

The results of this third study confirmed those of the first two reported in this Article. As expected, subjects altered the amount of money they were willing to accept in ways that were consistent with placing a significant economic value on attribution.[90] More important, however, *this study suggests that a waivable default attribution rule could have a significant – and negative – effect on the efficiency of markets to license IP*.

In the Default Attribution condition, subjects' initial WTA:Att for credited use of their photos averaged $40.17 (standard deviation = $46.69), while they demanded $54.94 (standard deviation = $59.57) for uncredited use of their photos (WTA:NoAtt). A paired samples T-Test indicated that this difference is highly statistically significant ($t(205) = 6.265$, $p \ll 0.001$). Subjects given an opportunity to "sell" their attribution right demanded almost $15 on average to do so.

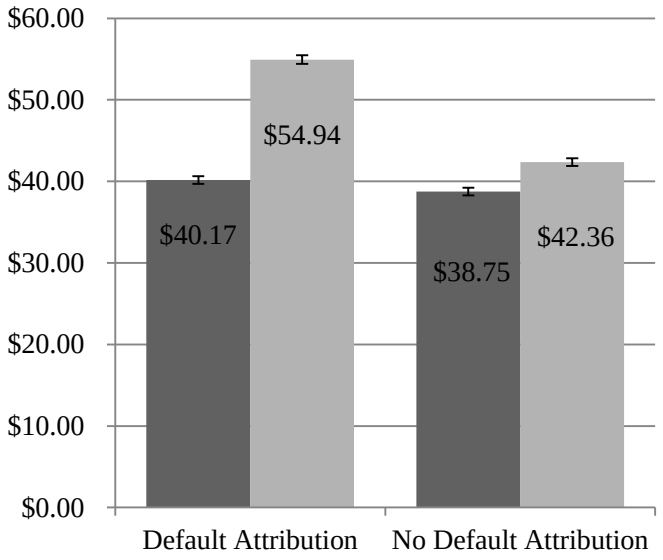
In the No Default Attribution condition, subjects also altered their willingness to accept in a manner consistent with valuing attribution. Their initial WTA:NoAtt for uncredited use averaged $42.36 (standard deviation = $46.88), yet they were willing to accept only $38.75 (standard deviation = $47.90) in order to receive credit (WTA:Att). Again, a paired samples T-Test indicated that this difference is highly statistically significant ($t(213) = 2.250$, $p = 0.012$). Here, subjects who were given an opportunity to "buy" attribution (by reducing their WTA) were willing to give up $3.61 to obtain it.

The most important finding involves the significant difference between how subjects in the two conditions valued attribution. When we compare the amount that subjects valued attribution across the two conditions, we see that the default rule had a substantial effect. When attribution was set as the default (WTA:Att), the difference between the two WTA amounts was $14.77, yet when attribution was not the default (WTA:NoAtt), the difference was only $3.61. An independent samples T-Test indicated a highly significant difference between the two conditions ($t(418) = 5.24$, $p = 0.017$). When the subjects were initially endowed with a right to attribution, they valued it substantially more than they did when they were not so endowed and had to purchase it. *In our study, subjects valued attribution four times higher under the default attribution condition than when the default was no attribution*. Again, the neoclassical model would not predict this result. But it is broadly in line with

[90] *See infra* Table 3.

our previous findings and with the voluminous literature limning the significant effect that defaults can have in shaping behavior.

Figure 3.



Default Attribution: WTA:Att vs. WTA:NoAtt

No Default Attribution: WTA:Att vs. WTA:NoATT

3. Discussion

Before we discuss the legal implications of our findings, it is important that we address the possible psychological explanations for our results in Experiment 3. According to neoclassical economic theory, the differences in default rules about attribution should not have significantly affected subjects'

valuation of attribution.[91] This is because people's preferences about attribution (or anything else, for that matter) are thought to be stable and exogenous to the way the choice is structured.[92] That is to say, the amount that someone values attribution should not change based on irrelevant aspects of how his valuation is elicited.

Over the course of the last three decades, however, substantial research in the behavioral sciences has undermined the assumption that people have stable, well-defined preferences.[93] In many instances, it seems, people's preferences are constructed by the way choices are framed. This has consistently been shown in the context of changes in default rules.[94] As we mentioned above, if people have stable preferences, then, when transaction costs are small, default rules should have no effect. If people do not like the default, they can simply switch out of it. But as the organ donation studies show, default rules can be very sticky.[95] Even when transaction costs are low, people tend to remain with the default choice.[96]

Even stable, well-defined preferences can sometimes lead to puzzling patterns depending on what the default choice is, especially in situations where it is unclear how to value the item in question. For example, people are incredibly consistent in valuing novel pain experiences in relation to one another.[97] In one study, participants who were asked to indicate how much they would have to be paid to listen to unpleasant noises always demanded more money to listen to sixty seconds of the noise than ten seconds of the noise.[98] Importantly, however, the amounts of money they demanded were highly dependent upon whether they saw an irrelevant price of 50¢ or 10¢ beforehand.[99] Those who saw a higher price demanded more to listen to the unpleasant noise, such that often participants in the high-price condition demanded more payment for a thirty second noise than participants in the low-price condition demanded for a sixty second noise.[100] There was no

[91] *See* Korobkin, *supra* note 81, at 611.

[92] *Id.*

[93] *See* Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCIENCE 453, 453 (1981).

[94] THALER & SUNSTEIN, *supra* note 81, at 86.

[95] Johnson & Goldstein, *supra* note 86, at 1338.

[96] *Id.*

[97] *See* Dan Ariely et al., *"Coherent Arbitrariness": Stable Demand Curves Without Stable Preferences*, 118 Q.J. ECON. 73, 80-84 (2003) (finding, in an experiment where subjects were asked to listen to an annoying sound with varying default "anchor" prices, "arbitrary but coherent pricing of painful experiences, even when there is no uncertainty about the nature or duration of the experience").

[98] *Id.*

[99] *Id.* (finding a "powerful effect of the anchoring manipulation").

[100] *Id.* at 83 fig.I.

convergence over several trials, indicating that the impact of the default can persist even with experience in the market.[101]

This behavior is known as "coherent arbitrariness."[102] People's preferences are coherent when comparing two different conditions to one another. They demand more money the more unpleasant the condition, but their preferences are arbitrary with respect to the amount of money they assign to each condition generally. Subjects have stable preferences between sixty seconds of unpleasantness and thirty seconds of unpleasantness, but they are not sure how to assign prices to these preferences in the abstract.[103] They anchor on an initial irrelevant figure and vary accordingly.[104]

Compare these results with ours in Experiment 3. Our participants presumably have stable preferences that attribution is more valuable than none, but they have no strong ideas about how much attribution is worth in a vacuum. We found that there is basically no statistically significant difference between WTA:Att in the Default Attribution condition ($40.17) and WTA:Att in the No Default Attribution condition ($38.75), regardless of whether this included attribution rights ($t(418) = 0.480$, *n.s.*). In Experiment 3, subjects in both conditions set their initial WTA at about $40. Presumably they have determined this price by dividing the $200 prize that the designer is competing for by the number of photographs the designer is being shown – a completely arbitrary price.[105] Having set their initial prices, however, participants consistently and predictably adjusted in the correct direction to trade attribution rights for money. These results look very much like coherent arbitrariness: an arbitrary initial valuation when it is unclear how to price, followed by coherent valuations that key off the initial price once it has been established.

Coherent arbitrariness helps explain how our participants set their initial valuations and how they varied from them, but it does not explain why the variation was so different between conditions. This variation is likely an effect of the ways in which default rules can affect people's decisions. Defaults are powerful in part because people have a tendency to treat the default as the status quo.[106] Numerous studies have shown that people tend to be biased in

[101] *Id.* at 82.

[102] *Id.* at 97.

[103] *Id.*

[104] *Id. See generally* Craig R.M. McKenzie et al., *Recommendations Implicit in Policy Defaults*, 17 PSYCHOL. SCI. 414 (2006); Shlomi Sher & Craig R.M. McKenzie, *Information Leakage from Logically Equivalent Frames*, 101 COGNITION 467 (2006).

[105] Subjects were given no information about the number of designers who were competing for the $200 prize, so the subjects could not estimate the designers' expected winnings. Accordingly, there was no reason for them to believe that designers would be willing to pay this much to use their photographs.

[106] Korobkin, *supra* note 81, at 631 ("[T]he default term that governs the parties *might appear to parties to represent the status quo allocation of rights and responsibilities*.").

favor of the status quo.[107] This is due, in part, to the possibility that the status quo – at least when it gives a person some right or claim – may begin to feel like an endowment, something owned by the person, such that changes from the status quo then feel like losses of the endowment.[108] People are generally loss averse, and, as many studies, including our own, have shown, people tend to substantially overvalue things with which they are endowed.[109]

Another explanation for the stickiness of defaults is based on the possibility that people treat defaults as expressions of appropriate or preferred behavior, and, in the absence of strong preferences of their own, tend to follow the implicit suggestion of the "choice architect."[110] People may assume that the default was chosen for a reason and conform with it because they trust the signal being sent.[111]

Although it is difficult to know, we suspect that the additional value that subjects in our study attached to attribution derives primarily from the former explanation (status quo bias and loss aversion) rather than any normative or expressive content conveyed by the default. In the Default Attribution condition, the right to attribution had become part of the subjects' endowment; it was something they owned that they were being asked to sell. Conversely, in the No Default Attribution condition, subjects were not initially endowed with the attribution right and were asked, in effect, to purchase it by lowering their WTA. In both conditions subjects significantly valued attribution, but in the first condition, they seemed to have given more weight to losing something they already owned than to purchasing something they did not yet own. This result is consistent with the expansive literature on the status quo bias and the endowment effect.

We also tested the possibility that the difference in valuations might be caused by the expressive nature of the default.[112] Our findings did not support that hypothesis. We ran an additional pair of conditions that were identical to those reported above but in which subjects were explicitly told that the initial condition (either Default Attribution or No Default Attribution) was based on U.S. copyright law.[113] We thought that an explicit mention of the law would

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[107] *See* Johnson & Goldstein, *supra* note 86, at 1338; Samuelson & Zeckhauser, *supra* note 85, at 8.

[108] Korobkin, *supra* note 81, at 625.

[109] Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 31; Buccafusco & Sprigman, *Valuing IP*, *supra* note 2, at 7-8; Kahneman et al., *supra* note 85, at 194; Kahneman et al., *supra* note 10, at 1328.

[110] THALER & SUNSTEIN, *supra* note 81, at 83-87; Sher & McKenzie, *supra* note 104, at 487; Sunstein, *supra* note 84, at 114-15 ("It seems reasonable to speculate that in many cases, the default rule carries information about ordinary or sensible practice.").

[111] *See* Richard H. McAdams, *An Attitudinal Theory of Expressive Law*, 79 OR. L. REV. 339, 340 (2000); Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021, 2032 (1996).

[112] Sunstein, *supra* note 84, at 114-15.

[113] Thus, subjects in the Default Attribution condition were told: "Copyright law gives

strengthen the expressive signal of the default condition. In fact, however, subjects did not value attribution any differently in the two versions of the study. This suggests that subjects were responding less to the expressive value of the default than to their disposition toward the status quo.

III. IMPLICATIONS FOR LAW AND POLICY

Our previous poetry and painting studies demonstrated significant valuation gaps between creators and potential buyers in IP transactions. These valuation gaps do not mean that IP transactions never occur; obviously, we see IP bought, sold, and licensed in the real world every day. Our initial experiments do suggest, however, that because the parties to such transactions might start further apart than the neoclassical model would predict, they will be obliged to spend more on negotiation to get to a deal. These higher transaction costs mean fewer transactions,[114] and our results therefore raised the possibility that IP markets might be less efficient than previously believed. These markets may be clearing at a lower level of output – that is, with fewer valuable deals being made – than they would be in the absence of endowment and creativity effects.

One limitation of our earlier experiments was that the expected payoff was purely monetary. This differs from the real world in which the parties – and especially the creators – may contemplate a number of possible monetary and nonmonetary benefits of transacting. As noted above, there is considerable evidence suggesting that creators value opportunities for attribution and publication in addition to direct monetary compensation.[115] Perhaps, then, the gap between creators' and buyers' valuations of IP might be substantially reduced or even eliminated were the prospect of publication – and especially publication with attribution – offered to the sellers/creators. These new experiments are, in part, an attempt to improve the ecological validity[116] of our previous research.

In addition, and perhaps more importantly, our new experiments provide the first quantitative measure of the monetary value that creators attach to attribution and publication opportunities. Although a considerable body of

you a waivable right to receive credit for your work. That means that you have the right to insist upon receiving credit but that you can waive that right if you want to." Subjects in the No Default Attribution condition were told: "Copyright law does not give you an automatic right to receive credit for your work, but you may receive credit if you and the designer agree to give you credit."

[114] *See* Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CALIF. L. REV. 1051, 1107-10 (2000).

[115] Buccafusco, *supra* note 1, at 1152-53.

[116] Marilynn B. Brewer, *Research Design and Issues of Validity*, *in* HANDBOOK OF RESEARCH METHODS IN SOCIAL AND PERSONALITY PSYCHOLOGY 3, 12 (Harry T. Reis & Charles M. Judd eds., 2000) (defining ecological validity as "whether an effect has been demonstrated to occur under conditions that are typical for the population at large").

research has documented creators' desires for attribution, none of this work has attempted to measure attribution's economic value. Our experiments provide new data that can help shape the debate about the desirability of attribution rights in the U.S. and abroad.

A. *Building upon the Previous Studies*

The new data we have obtained from the mTurk and CPI/PDN studies suggest that attribution opportunities may drive down creators' selling prices, thereby dampening the magnitude of the creativity effect. Our new results suggest that creators do attach some value to the prospect of publication with attribution, and they reduce their WTA when presented with that prospect. But our data also suggest that the prospect of publication with credit is no panacea – while we saw statistically significant reductions in both our studies, subjects in the Attribution condition in both studies persisted in reporting WTA significantly above what the neoclassical model would predict. Although WTA dropped substantially in the Attribution condition, the mean WTA numbers were still $235[117] and $132[118] in the CPI/PDN and mTurk studies, respectively. Given our findings from the previous experiments, it is unlikely that there would have been many buyers willing to pay this much to obtain the creators' chances of winning the prize. In those previous studies, buyers' WTP amounts were usually closer to the rational expected value of the prize.[119] We would expect that, had we recruited buyers for the current experiments, their WTP would have roughly reflected the expected value of the prize, that is, $10 in Experiments 1 and 2.

Interestingly, our data also suggest that the prospect of publication *without* attribution has no significant effect in reducing creators' WTA and may even, in some instances, *increase* it.[120] Scholars who commented on our previous work had suggested that creators may value having their work "out there." Perhaps these creators merely want to improve the world irrespective of financial or reputational gain. They may feel a "warm glow" of pleasure knowing that they have made a contribution to knowledge or the arts.[121] Some Wikipedia editors may feel this way.[122] Our study, however, did not detect any evidence of such an effect on creators' WTA.

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[117] *See supra* Table 2.

[118] *See supra* Table 1.

[119] Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 40 fig.1 (reporting a mean WTP for painting buyers of $17.39 for a prize with a rational expected value of $10); Buccafusco & Sprigman, *Valuing IP*, *supra* note 2, at 22 (reporting a mean WTP for poem buyers of $10.38 in the "eyes closed" contest, $9.21 in the "eyes open" contest, and $5.60 in the lottery experiment for a prize with a rational expected value of $5).

[120] *See supra* Table 1 and Figure 1.

[121] James Andreoni, *Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving*, 100 ECON. J. 464, 464-65 (1990).

[122] *See* YOCHAI BENKLER, THE WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION

Of course, we cannot say that our study proves that creators do not value publication absent attribution. There is good reason to think that they do.[123] Our failure to detect any effect on WTA by the prospect of publication may be due to the group of subjects we used. Mere publication may have less value in the field of photography than it does in the more networked and collective environment of Wikipedia. Nonetheless, our data suggest that publication without attribution may be viewed negatively by some creators, and perhaps more negatively than no publication at all. To the extent that creators believe they have a right to be credited for their work, they may dislike the idea of having their work published without attribution.

Thus, at least in the markets for photographs that we have created, attribution and publication do not play so strong a role in creators' utility functions that creators are willing to entirely part with their works' economic value to obtain them. While attribution seems to affect the amount of money that creators are willing to accept to sell their IP rights, the diminution is small relative to the overall magnitude of the creativity effect. Accordingly, while bargaining over attribution might make markets for creative or innovative goods less inefficient than we previously suggested, it does not appear to produce a Coasean world of freely flowing goods in markets for IP. Initial distributions of IP rights will still likely be sticky, and otherwise efficient bargains will not be made due to creators' overvaluations.

B. *Evaluating Whether to Provide a Default Right of Attribution*

Even more than the supplement they provide to our previous research, our new experiments are valuable for the light they shed on the emerging question of whether and how to provide creators a right of attribution. U.S. copyright law, which provides creators of a wide variety of artistic and literary works with broad rights to control reproduction, distribution, modification, and the public performance and display of their works, does not provide most creators with any general right to attribution.[124] Our research provides quantitative empirical evidence for the notion that creators significantly value attribution.

Scholars who contend that a right of attribution should be protected by U.S. copyright law may claim support for their position in the value that creators attach to attribution in our studies. Creators were potentially willing to sacrifice a significant amount of cash in order to have their names attached to their photographs if they won. As noted above, the estimated value that the professional photographers attached to publication with attribution was

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TRANSFORMS MARKETS AND FREEDOM 72-74 (2006) (contending that Wikipedia authors derive pleasure from writing, and agree to abide by particular writing norms to participate in a common publishing endeavor); Garon, *supra* note 23, at 99-100.

[123] *See* Garon, *supra* note 23, at 100-02.

[124] The exception to this rule includes the narrow rights granted under VARA. *See supra* note 25.

$415.07.[125] From this perspective, creators' statements about the desire for attribution do not merely appear to be post hoc rationalizations of prior behaviors or of community norms but rather explicit ex ante trade offs when they have skin in the game.

As described above, scholars who support the provision of attribution rights differ on the underlying reasons for doing so.[126] Some scholars believe that creators deserve rights of attribution because of the moral connection between authors and their works.[127] These scholars may find support in our research because it provides quantitative evidence that creators do in fact care about attribution. Nonetheless, economic considerations are typically not paramount in moral-rights theories, so the specific tradeoffs that creators make between attribution and money may be less relevant.

For those scholars who promote attribution rights from a utilitarian perspective, the significant positive value that creators attach to attribution may seem to support provision of such rights.[128] Yet it does not follow that the U.S. should include a right to attribution in the law simply because creators value it.[129] From a utilitarian perspective, attribution, just like any other aspect of IP rights, should be assigned in such a way that it is likely to reduce transaction costs and generate efficient bargains.[130] In light of the findings of our third experiment, our research seems to undermine utilitarian arguments for creating a waivable attribution right.[131]

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[125] *See supra* text accompanying note 76.

[126] *See* Tushnet, *supra* note 51, at 792-93.

[127] *See* Kwall, *supra* note 31, at 985-86; Tushnet, *supra* note 51, at 792-93.

[128] *See* Fromer, *supra* note 31, at 1791 (citing this Article).

[129] And indeed, the obverse is true: we may wish to include such a right in law *even if creators did not assign economic value to it*. Some moral-rights theorists support an attribution right on the grounds that it is ethically required as a matter of the creator's relationship with her work. This is the *moral value* we discussed earlier. *See* Kwall, *supra* note 31, at 986; *supra* text accompanying note 34. Our work does not distinguish any potential component of moral value in measuring the overall value that creators assign to attribution. Of course, for those viewing IP through an economic lens, the value that creators place upon attribution – whatever its source – is due consideration in the enterprise of structuring efficient property rules.

[130] *See* LANDES & POSNER, *supra* note 9, at 12-13.

[131] Jeanne Fromer has recently argued that creators may find attribution as an "expressive incentive" motivating them to create more and better works. Fromer, *supra* note 31, at 1790-98. She suggests that because attribution may be relatively inexpensive for IP law to provide, the creation of default attribution rights could reduce the law's reliance on more expensive creation incentives like exclusionary rights. *Id.* This could in fact be the case. It is unclear, however, whether creators actually do perform better when attribution is offered to them ex ante or whether they simply value it ex post. Additionally, any benefits from such a change would have to be weighed against the costs that we describe in this Article. For purposes of this Article, we will assume that the kinds of tradeoffs between incentive regimes Fromer describes will not happen and that the provision of a default attribution right

Our previous studies suggested that large bargaining gaps are likely to exist between creators and licensors of IP due to creators' systematic overvaluation of their work.[132] These bargaining gaps create substantial transaction costs that likely lead to inefficient markets and a suboptimal number of transactions.[133] The findings reported in this Article imply that creators are willing to significantly decrease the amount of money they are willing to accept to license their work in exchange for attribution. Under the current copyright regime in the U.S., creators who desire attribution must bargain for it – *that is, they will often have to lower their minimum WTA in order to receive attribution*. Accordingly, compared to a regime with a default attribution right, the current U.S. copyright system probably results in more efficient (albeit likely still far from perfectly efficient) bargaining.

The results of Experiment 3 bring this issue to light most clearly. All of the experiments reported in this article imply that creators attach significant value to attribution, that is, they have fairly stable preferences to the effect that attribution is valuable and that they are willing to trade off money to receive attribution. Importantly, however, the specific amount at which creators value attribution is deeply unstable and subject to significant framing effects based on the default rule. When attribution is not provided as a default right but must be purchased by creators, they lower their WTA by a modest but nonetheless significant amount to purchase attribution. But when the initial entitlement is reversed – that is, when attribution is made part of creators' default complement of rights – creators are willing to part with their default attribution rights only for substantial amounts of money. In our study, creators valued attribution about four times more when attribution was provided as a default than when it was not.[134]

In other words, an endowment effect – a significant gap between WTP and WTA – appears to attach to the right of attribution when it is structured as a default that creators must contemplate trading away. This is consistent with much social scientific research on default rules and the status quo. Legal rights that are structured as defaults are in a sense "owned," just like any other form of property, and the owners of those default legal rights will tend to be resistant to parting with them. They will demand more money to sell a right to attribution than they would have been willing to pay to receive it.

When parties to IP transactions are bargaining over both use of the work and the provision of attribution, we should expect fewer efficient transactions when creators are given default attribution rights. Because creators value attribution more highly when the right is structured as a default entitlement, the initial valuations of the parties to IP transactions will be forced further apart when a right to attribution is structured as a waivable default held by the creator. Our

would not occur with a complementary diminution in other rights.

[132] Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 39-40.

[133] *Id.* at 47.

[134] *See supra* Part II.C.3.

studies on the creativity effect indicated that significant bargaining gaps will arise between creators and purchasers of IP and that these gaps will lead to inefficient IP markets.[135] The results of the experiments reported in this Article suggest that those bargaining gaps will grow substantially if attribution is provided as a default entitlement. In a world where creators do not receive attribution but desire it, they will tend to have to reduce the price of access to their work in order to obtain attribution. By contrast, in a world where creators receive attribution as a default, those who desire to use a creator's work without attribution will have to overcome both the creativity effect and the endowment effect that attaches to the attribution right. These considerations suggest that we need to think carefully before changing U.S. law to incorporate a default right to attribution.

To see how creators' asymmetric valuation of attribution may worsen inefficiencies in IP licensing markets, consider an example where a car company wishes to use a band's song in one of its commercials. The band likely will attach significant worth to attribution, because it will likely value the economic and moral dimensions of receiving credit for its work. The car company may or may not consider the provision of attribution to be costly to itself. Whatever the case, having a default rule providing attribution is likely to impede efficient bargaining for the use of the song.

First consider the situation where the company does not attach any cost to providing attribution. As our research on the creativity effect suggested, there may initially be a significant gap between what the company is willing to pay and what the band is willing to accept for the use of the song. Since the band desires attribution, however, in a regime without a default attribution right, the company can use the band's preference for attribution to negotiate a lower use price. Experiments 1 and 2 in this Article indicate that the band may be willing to reduce its WTA in order to receive credit. This will diminish the initial gap between WTA and WTP and increase the likelihood that the parties will reach an efficient bargain.[136]

Now consider a situation where the company does attach a significant cost to providing attribution, perhaps because it believes that including the additional information on the commercial will distract viewers. Again, there will likely be a gap between WTP and WTA. In a regime where there is no default attribution right, the two parties will be able to negotiate over the provision of attribution. Presumably, if the band does not receive credit, the company will have to increase the amount that it is willing to pay the band, or if the band receives credit, the band will have to decrease the amount that it is willing to accept. In either case, there is a higher likelihood of the parties

[135] *See* Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 52.

[136] *See* Russell Korobkin, *Who Wins in Settlement Negotiations?*, 11 AM. L. & ECON. REV. 162, 196 (2009) (showing that the distance between parties' initial offers is inversely correlated with the likelihood of successful bargaining).

reaching an agreement because they will be starting from closer initial values.[137]

The situation is different, however, in a regime where there is a default attribution right and the user attaches a cost to providing attribution. Now, in addition to the bargaining gap associated with the use price, there will also be an increased bargaining gap in the price of attribution. As Experiment 3 suggests, the amount that the company would have to pay to avoid providing attribution will be substantially higher than it will be under the no-default attribution regime. Our data indicate that the band is likely to attach a significantly higher value to attribution under the default attribution regime. Thus, the parties will have to overcome significant bargaining gaps for both the use rights and the attribution rights, thereby increasing transaction costs and decreasing the likelihood of reaching an agreement.

Accordingly, in our example, providing a default attribution right has two negative effects on efficient bargaining. First, compared to a no-default-attribution regime, the default-attribution regime sacrifices the benefit of requiring the creator to bargain over attribution. This is a loss, because if that negotiation occurred, it would likely drive down the creator's price and increase the likelihood of an agreement. Second, and perhaps more important, providing a default right to attribution will significantly increase the amount that the creator values attribution and thus the amount that the user will have to pay to avoid providing it. This will further undermine the chance of reaching a mutually acceptable bargain. Recall that this increased value of attribution does not likely reflect any exogenous value that the creator experiences – the sort of value that the neoclassical model recognizes as the basis for preferences. Instead, it is simply an artifact of the framing of preferences subject to different default rules. There may be some who will argue that the law should respect preferences no matter how they are produced. We disagree with this view. Where preferences are constructed, at least in part, by our choice of legal rules, they are within the law's power to shape, both in fact and as a normative matter – at least if one choice of legal rule, and the preferences that flow from it, will lead to more efficient outcomes.

In any event, providing attribution will often be costly. Indeed, some creative industries – motion picture and software in particular – have objected to an attribution requirement, arguing that providing attribution to the large number of people who provide creative input to a movie or a software product would be impractical and would interfere with private arrangements within the industry that determine who is credited for creative work.[138] If these claims are true, then reforming U.S. law to include a default right of attribution would require licensors in a range of IP transactions to purchase creators' attribution rights. In this context, the transaction costs attending these deals would likely increase.

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[137] *Id.*

[138] *See* Fisk, *supra* note 1, at 77.

These experiments indicate that, all else being equal, altering U.S. copyright law to provide creators with default attribution rights can result in higher transaction costs and less efficient transacting. Still, understanding whether the shift from the current U.S. rule to a default rule in favor of creators' attribution would be beneficial involves yet another layer of analysis. In a world of significant transaction costs, the Coase Theorem advises us to avoid as many costly transactions as possible by granting initial entitlements to those likely to value them the most.[139] Our findings suggest, however, that this relatively simple formula can in some instances lead to inefficient allocations.

If transaction costs created by overvaluation of a default right to attribution – what we can refer to as "behavioral transaction costs," or "bias costs" – outweigh the ordinary transaction costs recognized by the neoclassical model, it may be best to keep U.S. law as it is. In such an instance, adding a default right to attribution to U.S. IP law could on balance *worsen*, rather than reduce, inefficiencies in IP licensing markets. On the other hand, if under most circumstances ordinary transaction costs outweigh bias costs, then a switch to a default attribution right would make sense.

In order to know which policy is preferable, more data on IP markets is necessary. Over the run of IP transactions, how often are bias costs likely to outweigh traditional transaction costs? And how often will the obverse be true? These data are not yet available, and they might differ between industries.[140] For the moment, our findings suggest reason for caution given that scenarios in which bias costs outweigh neoclassical transaction costs are far from implausible. In Experiment 3, creators valued attribution *four times higher* when it was given as a default compared to when it was not. Admittedly, these laboratory findings do not necessarily reflect how large bias costs are likely to be in the wide array of real-world IP transactions. Nonetheless, they do suggest the existence of situations in which bias costs outweigh neoclassical transaction costs, and where the more efficient default rule *does not* allocate the initial entitlement to the party who values it most.

We wish to emphasize that our research does not definitively answer questions about the value of providing attribution rights. Whether IP laws should incorporate an attribution right is a complicated question mixing economic and moral considerations, to which our data provide nothing close to a full answer. They do, however, provide new insight into the economic value of attribution. From an economic perspective, the law's decisions about such matters should be the result of carefully weighing the costs and benefits of the right. While our data cannot fully describe these, they do point to some previously overlooked costs of creating a default waivable attribution right.

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[139] *See* Coase, *supra* note 8, at 19.

[140] For example, the amount at which creators value attribution may differ depending on whether different media and industries have different norms about the provision of attribution.

Finally, our arguments apply to the prospect of adopting a waivable attribution right. Recall, however, that some European countries have established *nonwaivable* attribution rights.[141] In such a situation, the parties cannot transact at all over whether attribution is provided.[142] Thus, in instances where it costs something to the licensee to provide attribution, and where transacting to waive it would leave both parties better off (that is, where the cost to the publisher outweighs the benefit to the rightsholder), having a nonwaivable right introduces an intractable inefficiency into the licensing market. In such cases, we would expect deal prices to fall, although it is difficult to say by how much. This situation would be difficult to model experimentally, at least with a protocol like ours, because transacting over attribution would not be possible by definition.

C. *Wider Implications for Property Theory and the Efficient Structuring of Default Rules*

Beyond questions associated with attribution rights and IP, this research has important implications for a number of different substantive areas. Whenever the law is confronted with a situation involving the efficient distribution of entitlements, it will have to confront the issues raised by our findings on the costs of defaults. Experiment 3 suggests that a party who enjoys a default legal right as part of her initial complement of rights will tend to treat that legal right in a fashion similar to any other form of initial entitlement and overvalue it relative to what neoclassical theory would predict. That is, what the endowment effects literature suggests is true for property – that property is valued more highly merely as a consequence of ownership – may be true also for a wide class of other legal entitlements. Many legal entitlements – including contract default rules, employment rules, and the availability of certain kinds of remedies – may generate attachments and overvaluation in the hands of their initial owners. In those cases, standard applications of law and economics theories will not result in efficient or welfare-maximizing outcomes.

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[141] *See supra* note 40 and accompanying text.

[142] Ayres & Gertner, *supra* note 81, at 87 ("Immutable rules cannot be contracted around; they govern even if the parties attempt to contract around them."); Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1092 (1972). Cass Sunstein writes:

> Of course, many statutes create nonwaivable rights. They bypass the question of default rules entirely by banning bargaining altogether. There are many reasons why legislatures and courts might take this approach. Perhaps third-party effects argue against waiver. Perhaps waivers would be inadequately informed; behavioral economics offers a number of reasons why this might be so. Perhaps nonwaivable rights can be justified, in the context of accommodation mandates, on redistributive grounds.

Sunstein, *supra* note 84, at 108. We think that the typical situation involving bargaining over attribution does not satisfy these requirements for limiting transactional freedom.

Our findings suggest two deep, even foundational, difficulties with the Coase Theorem. One involves the appropriate distribution of entitlements in a world without transaction costs and the other in a world in which transaction costs exist. The Coase Theorem holds that in the absence of transaction costs, it does not matter where the law locates initial entitlements: if the initial distribution is inefficient, the parties will simply relocate it through a voluntary transaction. For example, if the law gives an entitlement to *A* but *B* values it more than *A* does, *A* and *B* will simply transfer the entitlement for some amount of money between the two valuations.

Our findings suggest that the very act of locating an initial entitlement with one party to a transaction may cause that party to overvalue that initial entitlement. This means that the very enterprise of distributing initial entitlements may *inherently* create transaction costs.[143] That is, while the Coase Theorem holds in the neoclassical world of exogeneity and stability of preferences, in a world where preferences are endogenous and vary based on the way initial ownership is structured, it breaks down. Parties face increased transaction costs in negotiating, as we have explained. And that is true even when the transaction at issue does not involve property but the transfer of a *right*.[144] Coase employed such an example in *The Problem of Social Cost*, his famous article setting out the Coase Theorem.[145] He based his discussion in part on a nuisance case named *Sturges v. Bridgman*, where a noisy confectioner and a quiet doctor were neighbors and went to court to see who should have to move. Coase suggested that regardless of whether the judge ruled that the confectioner had to stop using his machinery, or that the doctor had to put up with it, they could strike a mutually beneficial bargain about who moves, thus achieving an efficient outcome.[146] Nothing we have said suggests that the parties in this case, or others, cannot strike mutually beneficial bargains. But to think that they may ever be able to do so from a baseline of zero transaction costs is implausible. If the very enterprise of distributing entitlements causes transaction costs, then the baseline is by definition one

[143] *See* Korobkin, *supra* note 81, at 675; Jeffrey J. Rachlinski & Forest Jourden, *Remedies and the Psychology of Ownership*, 51 VAND. L. REV. 1541, 1555 (1998) ("To be sure, the endowment effect could be considered just another transaction cost, under a liberal definition of that term. Such treatment would resurrect the truth of the tautological aspect of the Coase Theorem (all efficient trades occur in the absence of transaction costs). Unlike other impediments to trade, however, judicious allocation of rights and remedies seemingly can do little to facilitate trade. Merely allocating a right results in an impediment to further trade. Unlike other transaction costs, the law apparently has no power to avoid creating an endowment effect.").

[144] *See* Russell Korobkin, *Policymaking and the Offer/Asking Price Gap: Toward a Theory of Efficient Entitlement Allocation*, 46 STAN. L. REV. 663, 665 (1994).

[145] Coase, *supra* note 8, at 9-16.

[146] *Id.*

where the parties face barriers to relocating it via negotiation. In such a world, legal rules *always* matter.[147]

Coase's great contribution was not, of course, to suggest that the world is devoid of transaction costs. Rather, the real value of the article was to describe how entitlements should be awarded when transaction costs exist.[148] According to Coase, when transaction costs affect bargains, initial distributions of rights may result in inefficiencies if those costs exceed the gains from trade.[149] Thus, the law should typically provide the entitlement to the party who is likely to value it most, thereby eliminating the necessity of transacting. This explains why people are endowed with rights to bodily integrity, homeowners with rights of quiet enjoyment, and authors and inventors IP rights.

The force of this insight erodes in the face of research indicating that people's preferences are unstable and are biased in favor of ownership. Endowment effects will tend to make people attach greater value to things that they own compared to things that they are considering purchasing.[150] We can think of the gaps between WTA and WTP that arise due to ownership as "bias costs." If bias costs significantly increase the minimum payment that the owner of the default is willing to accept, purchasers of those rights might not be willing to pay enough to obtain the rights although they would have obtained them in the absence of bias costs. For that reason, in situations where bias costs are (a) significant (so that they may outweigh traditional transaction costs) and (b) asymmetric between the two parties to a transaction (that is, where one party exhibits greater bias than the other), it might be valuable to initially provide the right to the party that *overvalues it the least*.

Determining whether bias costs exceed transaction costs and how many such cases exist is, of course, a difficult empirical question. But our research suggests that the scenario is at least plausible. Accordingly, the law should not unthinkingly follow the Coase Theorem's demands that entitlements always be given to those who are likely to value them most. Doing so may, in fact, increase inefficiency.

CONCLUSION

Scholars have often addressed the value that creators attach to publication and attribution, yet little research has attempted to empirically test the existence or magnitude of that value. These experiments have done so with interesting and suggestive results. Our research indicates that creators do assign significant value to attribution but limited if any value to publication on its own. The amount that they value attribution, however, does not completely

[147] Sunstein, *supra* note 84, at 109 ("When the endowment effect is at work, preferences and valuations are affected by the initial allocation of the entitlement; contrary to the Coase Theorem, there is no prelegal 'preference' from which the legal system can work.").

[148] Coase, *supra* note 8, at 15-19.

[149] *Id.*

[150] Buccafusco & Sprigman, *Creativity Effect*, *supra* note 2, at 31.

eradicate the valuation gaps and market inefficiencies that we have found previously. Moreover, our research suggests that from a utilitarian perspective, providing a default waivable attribution right may make matters worse.

Future research is needed to test the robustness of our findings. Moreover, our experiments all focused on a single medium, photography, that typically has low expectations of attribution. It is possible that in other media where attribution is standard – for example, painting, literature, and music – the value creators attach to it will be greater. It would also be worth comparing our findings to situations, such as open source computer coding, in which the value that creators attach to attribution results in free access to content.