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**THE MISSING LINK BETWEEN BLOCKCHAIN AND COPYRIGHT:
HOW COMPANIES ARE USING NEW TECHNOLOGY TO
MISINFORM CREATORS AND VIOLATE FEDERAL LAW**

*Sarah Anderson**

Blockchain technology has been hailed as a world-altering breakthrough that will change the ways information is stored, contracts are executed, and transactions are made. Blockchains are being integrated into a myriad of industries, but the law has been slow to respond to these implementations. However, this has not stopped supemerging companies, like Ascribe,¹ from trumpeting blockchain as the new platform for copyright protection. Although buzz about the technology is fairly recent and its potential applications are far from fully understood, startups are trying to capitalize early on blockchain’s potential by offering users services that are misleading and, sometimes, illegal. This Recent Development highlights the danger of companies that purport to offer copyright registration and protection absent any supporting legal authority. In particular, Ascribe—a company claiming to be a one-stop-shop for copyright—offers services that violate the Copyright Act of 1976. This Recent Development discusses why Ascribe fails to deliver any transparency regarding copyright ownership and protection and calls upon Ascribe to change its business model to comply with current laws.

* J.D. Candidate, University of North Carolina School of Law, 2019. Thank you, Deborah Gerhardt, for your brilliance and your patience, and thank you, NC JOLT staff and editors, for all your feedback and support. I would also like to express my appreciation for the educators at N.Y.U.’s Tisch School of the Arts, where I received my B.F.A., for their passion and persistence in creating. My work in the legal field is inspired by what I learned from them.

¹ Ascribe’s logo uses all lowercase letters (“ascribe”) but the company will be capitalized (“Ascribe”) for clarity throughout this Recent Development.

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I. INTRODUCTION

Copyright protection in the digital age is a complex issue. In recent decades, advances in technology have been abundant, unpredictable, and industry-changing, which are three qualities the law, unfortunately, does not easily respond to.² Content sharing has become effortless and ubiquitous,³ making the federal government’s goal of protecting original work a much more difficult task.⁴

² See Vivek Wadhwa, *Law and Ethics Can’t Keep Pace with Technology*, MIT TECHNOLOGY REVIEW (April 15, 2014), <https://www.technologyreview.com/s/526401/laws-and-ethics-cant-keep-pace-with-technology/>.

³ See Bernard Marr, *The Sharing Economy – What It Is, Examples, and How Big Data, Platforms and Algorithms Fuel It*, FORBES (Oct 21, 2016, 2:16AM), <https://www.forbes.com/sites/bernardmarr/2016/10/21/the-sharing-economy-what-it-is-examples-and-how-big-data-platforms-and-algorithms-fuel/#64c7b28d7c5a> (highlighting how digital and sharing economies are the norm today, resulting from a transition to widespread reliance on data and its transferability as a new means of accessing a vast range of both content and services).

⁴ Federal law defines what may be protected under U.S. copyright law. “Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.” 17 U.S.C. § 102(a) (2012). Works of authorship include literary, musical, dramatic,

Although technology can be a powerful ally in the fight against online infringement, pioneers of modern-day methods are often missing the mark when it comes to balancing innovation with the law's less-than-electric pace. By misinforming consumers about the relevant legal standards, some companies are capitalizing on new technological developments by suggesting they can do things that the law has yet to allow.⁵ In some cases, this is misleading advertising; in others, it is plainly illegal.⁶ Although new digital advancements certainly stand to benefit consumers and creators and eventually change the way the law handles intellectual property, pushing the system beyond its current limits is counterproductive.

This Recent Development proceeds in five parts. Part II will explain blockchain technology and provide a brief overview of how companies are using it to promote copyright protection. Part III will introduce Ascribe—a prime example of the tension between copyright law and new applications of blockchain technology—and will examine the claims made by the company regarding its capabilities as a service, inspecting one assertion in particular. This section will also explain the Termination Clause of the Copyright Act of 1976, the policy reasons behind it, and how Ascribe's Terms of Service violates the clause and plainly ignores other elements of existing copyright law. Part IV will evaluate the ways that blockchain technology can be legitimately used to supplement copyright protection in the absence of new legislation. Finally, Part V will call for Ascribe and similar services to be more transparent about legal standards and what their companies can and cannot provide. It will also emphasize the need for further research into how blockchain technology can be incorporated into existing laws.

choreographic, pictorial, graphic, sculptural, audiovisual, sound, and architectural works. *Id.*

⁵ This paper reviews and addresses Ascribe's and Binded's business models and advertised services. They both claim to use blockchain technology as a way to protect copyrights. Binded, for example, prominently displays the words, "Copyright made simple," and, "The easy way to protect your images, free forever," on its homepage. *See* ASCRIBE, <https://www.ascribe.io/> (last visited Sept. 28, 2017); BINDED, <https://www.binded.com/> (last visited Nov. 2, 2017).

⁶ *See infra* Part III.

II. BLOCKCHAIN AND THE COMPANIES LINKING UP WITH THE TECHNOLOGY

Blockchain technology has risen significantly in recognition over the last several years, particularly because it has been lauded as the tech that is changing the world.⁷ Blockchain is credited with having the potential to revolutionize information storage and transactions through increased speed, lowered cost, higher security, fewer errors, and the nonexistence of central points of attack.⁸ In 2016, the Harvard Business Review identified blockchain as one of the “Top Tech Trends to Watch,” predicting that it will become a “universal platform that . . . will disrupt entire industries.”⁹

Blockchain gained much of its initial renown as the platform that Bitcoin runs on,¹⁰ and it is important to have a general knowledge of Bitcoin to understand how blockchain technology works. Bitcoin is a decentralized digital currency that can be transferred instantly and securely on an open network managed by its users.¹¹ The value of this currency changes in real time based on how many people are

⁷ See Frank Holmes, *Blockchain Technology Could be Even More Disruptive Than Amazon Was 2 Decades Ago*, BUS. INSIDER (Sep. 19, 2017, 8:15 PM), <http://www.businessinsider.com/blockchain-technology-could-be-even-more-disruptive-than-amazon-2017-9>; Rob Marvin, *Blockchain: The Invisible Technology That's Changing the World*, PCMAG (August 29, 2017 1:38 PM), <https://www.pcmag.com/article/351486/blockchain-the-invisible-technology-thats-changing-the-wor>.

⁸ See DON TAPSCOTT & ALEX TAPSCOTT, *BLOCKCHAIN REVOLUTION: HOW THE TECHNOLOGY BEHIND BITCOIN IS CHANGING MONEY, BUSINESS, AND THE WORLD* 6 (2016).

⁹ Amy Webb, *8 Tech Trends to Watch in 2016*, HARV. BUS. REV. (December 8, 2015), <https://hbr.org/2015/12/8-tech-trends-to-watch-in-2016>.

¹⁰ “[Blockchain] was initially designed to facilitate, authorize, and log the transfer of bitcoins and other cryptocurrencies.” Andrew Meola, *Understanding Blockchain Technology, Bitcoins and the Rise of Cryptocurrency*, BUS. INSIDER (Aug. 25, 2017, 4:36PM), <http://www.businessinsider.com/blockchain-technology-cryptocurrency-explained-2017-8>.

¹¹ Bitcoin was first introduced in 2008 through a paper published by a person or persons under the pseudonym Satoshi Nakamoto, who sought to establish a structure where systems usually controlled by intermediaries could instead be crowdsourced to users of a common network. See Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System* (2008), <http://bitcoin.org/bitcoin.pdf>; see also *What Is Bitcoin?*, COINBASE, <https://www.coinbase.com/what-is-bitcoin?locale=en-US> (last visited Sept. 28, 2017).

trying to buy and sell it on the open market at any given moment.¹² Bitcoin's unique feature as a form of currency is that it is highly resistant to counterfeiting—there is a history of transactions attached to each unit.¹³ All Bitcoin transactions that have ever occurred are logged on a register called a blockchain.¹⁴

In its most basic form, blockchain is a decentralized peer-to-peer network¹⁵ that preserves a ledger of transactions.¹⁶ Blockchain enables the transfer of virtual currencies like Bitcoin, and every transaction is maintained in a transparent database for the world to view.¹⁷ No underlying central power regulates the chain; rather, all added transactions are authenticated by a network of computers, and the technology virtually eliminates any possibility of hacking or corruption.¹⁸ Every ten minutes, all conducted transactions are at once verified, cleared, and stored through network consensus in a new block that is attached, or linked, to a preceding block.¹⁹ All exchanges of value are permanently timestamped and stored through

¹² See *What is Bitcoin?*, *supra* note 11.

¹³ See Michael Sivy, *The Real Significance of the Bitcoin Boom (and Bust)*, TIME (April 12, 2013), <http://business.time.com/2013/04/12/the-real-significance-of-the-bitcoin-boom-and-bust/>.

¹⁴ See John Lanchester, *When Bitcoin Grows Up*, 38 LONDON REV. BOOKS 3 (April 21, 2016), <https://www.lrb.co.uk/v38/n08/john-lanchester/when-bitcoin-grows-up>.

¹⁵ “[A] peer-to-peer (P2P) network is created when two or more PCs are connected and share resources without going through a separate server computer.” James Cope, *Peer-to-Peer Network*, COMPUTERWORLD (Apr 8, 2002 1:00AM PT), <https://www.computerworld.com/article/2588287/networking/peer-to-peer-network.html>.

¹⁶ See Joe Dewey & Shawn Amual, *What is a Blockchain?*, BLOOMBERG L. BIG L. BUS. (September 22, 2015), <https://bol.bna.com/what-is-a-blockchain/>. A helpful way to think of the technology is as a spreadsheet. The spreadsheet is duplicated thousands of times across a network of computers, and this network is designed to regularly update the spreadsheet. The information held in this spreadsheet is shared and is not stored in any single location, meaning the records kept are not only public but easily verifiable. No centralized version of the spreadsheet exists. Hosted by millions of computers simultaneously, its data is accessible to anyone on the internet. *Id.*

¹⁷ See *id.*

¹⁸ See Marvin, *supra* note 7.

¹⁹ TAPSCOTT & TAPSCOTT, *supra* note 8, at 7.

this process.²⁰ The techniques are cryptographic,²¹ so it is impossible to fake an addition to the chain.²² For example, an individual cannot make a digital copy of a Bitcoin and keep it while sending the original to another person.²³

The permanence of information recorded on blockchain is one of the defining characteristics of the technology.²⁴ Blockchain is an append-only data store, meaning that information can only be added, never deleted.²⁵ Say, for example, that a copyrighted work of art is recorded on the blockchain ledger; it is essentially impossible to remove the data because there is no central server to disconnect.²⁶ Permanence in this sense can seem at once jarring and groundbreaking given the current digital landscape. To be sure, there are plenty of people who view the internet as a place where things can exist forever, from social media posts to incriminating work emails.²⁷ Yet consider, in the alternative, what the advent of the internet has done to the concept of original content.²⁸ The

²⁰ *Id.*

²¹ Cryptography is “the art and science of keeping messages secure.” BRUCE SCHNEIER, *APPLIED CRYPTOGRAPHY: PROTOCOLS, ALGORITHMS, AND SOURCE CODE IN C 1* (2d. ed. 1996); *see also* CHUCK EASTTOM, *MODERN CRYPTOGRAPHY: APPLIED MATHEMATICS FOR ENCRYPTION AND INFORMATION SECURITY* (2016).

²² *See* Lanchester, *supra* note 14.

²³ *See* Rob Wile, *Satoshi’s Revolution: How the Creator of Bitcoin May Have Stumbled onto Something Much, Much Bigger*, *BUS. INSIDER* (April 22, 2014, 11:50 AM), <http://www.businessinsider.com/the-future-of-the-blockchain-2014-4> (suggesting that Satoshi solved the Byzantine General’s problem, or the double-spend problem, where the challenge is to figure out how to transfer money online without a third party like PayPal and be sure the same digital credit is not being spent multiple times).

²⁴ *See* Garry Gabison, *Policy Considerations for the Blockchain Technology Public and Private Applications*, 19 *SMU SCI. & TECH. L. REV.* 327, 330 (2016).

²⁵ *See* Jeni Tennison, *What Is the Impact of Blockchains on Privacy?*, *OPEN DATA INST.* (Nov. 12, 2015), <https://theodi.org/blog/impact-of-blockchains-on-privacy>.

²⁶ *See id.*

²⁷ *See* Phil Gomes, *Blockchain Technology: The Marketing Value of Digital Permanence*, 4A’S DIGITAL HORIZON SERIES 3, 4 (2017), <https://www.aaaa.org/wp-content/uploads/2017/08/Blockchain-2017-Aug-28-Final.pdf>.

²⁸ *See* FRED RITCHIN, *AFTER PHOTOGRAPHY* 17 (1st ed. 2009) (“Digital media translate everything into data, waiting for an author or an audience (or a machine)

accessibility afforded by the web enables people to view, take, and alter almost anything they find so that millions of iterations can be derived from a single original work.²⁹ This widespread appropriation of copyrightable content becomes increasingly easier as technology continues to develop,³⁰ and generations who grow up through the digital age lack understanding of copyright and original authorship.³¹ It does not help that the chain of progression between conception and any given modified version is often difficult to trace, making protection of an original work an exceedingly difficult process.³² It is from this perspective that immutability afforded by

to reconstitute it . . . [s]ections, segments, and steps are the stuff of the digital.”); Ben Murray, *Remixing Culture and Why the Art of the Mash-up Matters*, TECHCRUNCH (Mar 22, 2015), <https://techcrunch.com/2015/03/22/from-artistic-to-technological-mash-up/>.

²⁹ See Murray, *supra* note 28.

³⁰ “Digital advances enabled the population at large to easily and seamlessly remix or mash-up copyrighted works.” Peter S. Menell, *This American Copyright Life: Reflections on Re-Equilibrating Copyright for the Internet Age*, 61 J. COPYRIGHT SOC’Y U.S.A. 201, 206–07 (2014). As recently as a couple of decades ago, consumers had minimal need to understand or interact with the copyright system, as options for accessing copyrighted works were once relatively limited. Films and television shows were released at set times, music was accessible via the radio or a record store, and books were found at libraries or bookstores. *Id.* “We did not think much about the copyright system because we largely lacked the technological capacity to do much with copyrighted works beyond experience them.” *Id.*

³¹ Students in the 21st century have grown up with unbridled access to information that seems to be just circulating in cyberspace, and plagiarism has become widespread. This trend may be accredited to the unraveling of more traditional perceptions of ownership. “Digital technology makes copying and pasting easy, of course. But that is the least of it. The Internet may also be redefining how [younger generations] understand the concept of authorship and the singularity of any text or image.” Trip Gabriel, *Plagiarism Lines Blur for Students in the Digital Age*, N.Y. TIMES (Aug. 1, 2010), <http://www.nytimes.com/2010/08/02/education/02cheat.html>.

³² This issue has been described as the “orphan work” problem. Orphan works cannot be connected to a copyright owner even by a good faith prospective user who is trying to identify the original author. See generally U.S. COPYRIGHT OFFICE, ORPHAN WORKS AND MASS DIGITIZATION (2015), <http://copyright.gov/orphan/reports/orphan-works2015.pdf>; U.S. COPYRIGHT OFFICE, REPORT ON ORPHAN WORKS (2006), <http://copyright.gov/orphan/orphan/orphan-report-full.pdf>.

blockchain seems like the next revolution in digital interaction. Creating something that exists on a permanent record in the digital sphere marks a significant change in the way content is currently used and preserved.³³

Blockchain technology's role in the future looks promising because anything involving digital assets and transactions can be put on a blockchain.³⁴ There is no single chain; the public ledgers extend far beyond the record of Bitcoin transactions.³⁵ Blockchain is already used to record everything from contracts to healthcare data.³⁶ Proponents of the technology have recognized potential in the electricity market (letting individual homes act as distributed power providers), in property sales (transferring records to blockchain), as a trust-building practice for Airbnb renters (reviews cannot be deleted), and in a wealth of other areas.³⁷ Leaders in this field of technology are confident that their various blockchain and distributed ledger projects have the potential to morph into an interoperable network of services in the future.³⁸ So what does this

³³ See Gomes, *supra* note 27, at 3 (highlighting the more ephemeral quality of the internet by revealing that 49% of hyperlinks referred to in U.S. Supreme Court decisions had left the web by 2013).

³⁴ See Rob Marvin, *Blockchain: The Invisible Technology That's Changing the World*, PCMAG (August 29, 2017 1:38PM), <https://www.pcmag.com/article/351486/blockchain-the-invisible-technology-thats-changing-the-wor> (pointing out that Microsoft and IBM are building custom blockchain for customers, academics are implementing the technology in their research, and startups are taking advantage of its capability for music sharing and tracking transactions).

³⁵ See Peter Sayer, *5 Things You Need to Know About Blockchain Technology*, PCWORLD (Apr 11, 2016) <https://www.pcworld.com/article/3053946/data-center-cloud/5-things-you-should-know-about-the-blockchain.html>.

³⁶ See *id.*

³⁷ See Oscar Williams-Grut, *Goldman Sachs: 5 Practical Uses for Blockchain – From Airbnb to Stock Markets*, BUS. INSIDER (May 28, 2016, 3:22AM), <http://www.businessinsider.com/goldman-blockchain-beyond-the-hype-practical-uses-2016-5/#sharing-economy-building-trust-on-platforms-like-airbnb-1>.

³⁸ See Michael del Castillo, *Consensus 2017: Blockchain Tech Leaders Predict Interoperable Future*, COINDESK (May 23, 2017 at 12:00 UTC), <https://www.coindesk.com/consensus-2017-blockchain-tech-leaders-predict-interoperable-future/>. But see *US Government Warns of Blockchain Risks*, BUSINESS INSIDER: BI INTELLIGENCE (June 25, 2016, 3:30AM),

growing technology mean for copyright protection, and what is being done to integrate blockchain into the current framework of copyright law?

Although the legal system is often slow to facilitate change in response to technological advancement, the United States Patent and Trademark Office (USPTO) has taken demonstrated efforts to stay on top of recent developments.³⁹ Their Office of Policy and International Affairs and the National Telecommunications and Information Administration have been working to “conduct a comprehensive review of the relationship between the availability and protection of online copyrighted works and innovation in the Internet economy.”⁴⁰ These groups are working in connection with the Department of Commerce’s Internet Policy Task Force (“IPTF”), which was established in 2010 to “identify leading public policy and operational issues impacting the U.S. private sector’s ability to realize the potential for economic growth and job creation through the Internet.”⁴¹ The IPTF met in December 2016 to discuss ways to foster a stronger, more collaborative digital marketplace for copyrighted works.⁴² The group explored the possibilities for integrating blockchain technology and open-source platforms into the digital toolkit for protecting copyrights, and while no definitive

<http://www.businessinsider.com/us-government-warns-of-blockchain-risks-2016-6> (cautioning that blockchain technology and marketplace lending come with the possibility of risk to financial stability); Will Knight, *Blockchain’s Weak Spots Pose a Hidden Danger to Users*, TECH. REV. (April 18, 2017), <https://www.technologyreview.com/s/604219/blockchains-weak-spots-pose-a-hidden-danger-to-users/> (noting that even one vulnerability can knock down an entire system).

³⁹ See *Internet Policy Task Force*, USPTO, <https://www.uspto.gov/learning-and-resources/ip-policy/copyright/internet-policy-task-force> (last visited Oct. 20, 2017).

⁴⁰ See *id.*

⁴¹ See *id.*

⁴² See *Developing the Digital Marketplace for Copyrighted Works*, USPTO, <https://www.uspto.gov/learning-and-resources/ip-policy/public-meeting-developing-digital-marketplace-copyrighted-works-dec> (last visited Sept. 28, 2017).

course of action was established, a strong awareness of the need for reform emerged from the session.⁴³

This understanding likely stemmed, in part, from a very recent announcement. Just one day before the public meeting, the House Judiciary Committee leaders suggested that the U.S. Copyright Office establish and maintain an online database of copyright ownership information.⁴⁴ The need for this type of comprehensive database stems from the drastic digital changes in the consumption of various copyrightable mediums.⁴⁵ The music industry, formerly supported by physical sales, is now sustained through streaming services, which calls for regulation of data management.⁴⁶ Photography has experienced changes as well, from the sheer volume of work to the frequency of reuse, which is often done virtually and without attribution.⁴⁷ Digital evolution creates

⁴³ See DEPT. OF COM. INTERNET POL'Y TASK FORCE, Transcript of Public Meeting on Developing the Digital Marketplace for Copyrighted Works, at 223–25 (Dec. 9, 2016), https://www.uspto.gov/sites/default/files/documents/61209pto_REV_officaltranscript_v2.pdf.

⁴⁴ See H.R. COMM. ON THE JUDICIARY, 114TH CONG., REFORM OF THE U.S. COPYRIGHT OFFICE (2016), <https://judiciary.house.gov/wp-content/uploads/2016/12/Copyright-Reform.pdf> (policy proposal released by Chairman Bob Goodlatte (R) and Ranking Member John Conyers (D)).

⁴⁵ DEPT. OF COM., *supra* note 43, at 8–9.

⁴⁶ See U.S. COPYRIGHT OFFICE, COPYRIGHT AND THE MUSIC MARKETPLACE: A REPORT OF THE REGISTER OF COPYRIGHTS 184 (2015) (addressing the issue of adopting data standards within the industry); *Streaming Helps Music Industry Rebound in 2016 After Years of Decline*, ROLLING STONE (March 31, 2017), <http://www.rollingstone.com/music/news/music-industry-rebounds-in-2016-thanks-to-streaming-w474394> (reporting that streaming was the music industry's biggest revenue generator in 2016, accounting for \$3.9 billion, or 51 percent, of the industry's earnings).

⁴⁷ See Nancy E. Wolff & Mikaela I. Gross, *Copyright Protection of Images Online*, 9 LANDSLIDE 18, 20 (2017) (“The current scale and pace of infringements is difficult for large licensing companies to police and manage, let alone individual photographers whose works are being used without permission.”). Compare *Here's How Many Digital Photos Will Be Taken in 2017*, TECH TODAY (Dec. 2, 2016) <http://mylio.com/true-stories/tech-today/how-many-digital-photos-will-be-taken-2017-repost> (estimating that 1.2 trillion photographs will be taken this year), with Stephen Heyman, *Photos, Photos Everywhere*, N.Y. TIMES (July 29, 2015), https://www.nytimes.com/2015/07/23/arts/international/photos-photos-everywhere.html?_r=0 (reporting that in 2000, Kodak announced an all-time record of 80 billion photos taken by consumers that year).

immense data problems when figuring out how to control and protect this type of work, and management and tracking systems have yet to meaningfully evolve.⁴⁸

Currently, public access to copyright ownership information is primarily accessed through the U.S. Copyright Office.⁴⁹ All registrations and recordings made since 1978 are available physically and through an online catalog.⁵⁰ Pre-1978 registrations are maintained on physical cards that are reproduced in a Catalog of Copyright Entries.⁵¹ The records, while useful, have their share of gaps:⁵² they fail to provide comprehensive data on all copyrighted works; they are not fully accessible via the internet; they include only certain facts relevant at the time of registration or recordation; and they are representative only of copyrights under U.S. law.⁵³ Private databases also exist, maintained by entities such as labor unions and management organizations.⁵⁴ Despite having a variety of actively maintained databases, there is still no “network of databases with global, comprehensive reach using interoperable standards to communicate with one another.”⁵⁵ Information regarding ownership rights across different creative sectors and national borders is still

⁴⁸ See DEPT. OF COM., *supra* note 43, at 11.

⁴⁹ DEP’T OF COM. INTERNET POL’Y TASK FORCE, COPYRIGHT POLICY, CREATIVITY, AND INNOVATION IN THE DIGITAL ECONOMY 90 (2013) <https://www.uspto.gov/sites/default/files/news/publications/copyrightgreenpaper.pdf>.

⁵⁰ See *id.*

⁵¹ See U.S. COPYRIGHT OFFICE, CIRCULAR 23, THE COPYRIGHT CARD CATALOG AND THE ONLINE FILES OF THE COPYRIGHT OFFICE 2, <https://www.copyright.gov/circs/circ23.pdf>.

⁵² See DEP’T OF COM., *supra* note 49.

⁵³ See *id.*

⁵⁴ See *e.g.*, COPYRIGHT CLEARANCE CENTER, *Get Permissions*, <http://www.copyright.com/get-permissions/> (enabling the public to find the publishers of works in its catalog); DIRECTOR’S GUILD OF AMERICA, *Signatory Database for Distributors*, <https://www.dga.org/Employers/SignatoryDatabase.aspx> (identifying original producers of motion pictures); SOUNDEXCHANGE, *Search for Artist*, <https://www.soundexchange.com/artist-copyright-owner/does-soundexchange-have-royalties-for-you/search-for-artist/> (listing sound recordings together with the artist and label that were reported to the company for payment purposes).

⁵⁵ DEPT. OF COM., *supra* note 49, at 94–95.

stored, at best, in a scattered amalgamation of unconnected databases.⁵⁶

Two of the IPTF public meeting participants, Nathan Lands of Blockai (since rebranded as Binded) and Trent McConaghy of Ascribe, are working to help establish such a comprehensive network.⁵⁷ Their two companies share a similar mission—to use blockchain technology to make records of work and protect against copyright infringement.⁵⁸ Binded and Ascribe are two among several companies, such as Mediachain⁵⁹ and Proof of Existence,⁶⁰ that operate on the belief that a decentralized public ledger is an excellent tool for cataloging and storing copyrighted material.⁶¹ The companies emphasize the permanency that the technology offers, noting that even should their copyright services cease to exist, there will always be a valid copy of a user’s authentic work on the blockchain.⁶² Some also tout the technology’s capabilities for fraud deterrence; should someone make a false claim of ownership on the blockchain, a negative record can be permanently linked back to them.⁶³ Essentially, these companies are trying to advertise

⁵⁶ *See id.*

⁵⁷ *See* DEPT. OF COM., *supra* note 43, at 70, 124.

⁵⁸ *See id.*

⁵⁹ *See* *Introducing Mediachain*, MEDIACHAIN BLOG, (Jan. 15, 2016) <https://blog.mediachain.io/introducing-mediachain-a696f8fd2035>.

⁶⁰ *See* *What Is Proof of Existence?*, PROOF OF EXISTENCE, <https://proofofexistence.com/about> (last visited Sept. 28, 2017).

⁶¹ *See* Jessie Willms, *Is Blockchain-powered Copyright Protection Possible?*, BITCOIN MAGAZINE (Aug. 9, 2016 12:00 PM), <https://bitcoinmagazine.com/articles/is-blockchain-powered-copyright-protection-possible-1470758430/>.

⁶² *See id.* Ascribe, for example, puts work onto the blockchain by generating a cryptographic ID of the work, which is a “composite of the digital artwork and the artist’s identity.” *FAQ*, ASCRIBE, <https://www.ascribe.io/> (last visited Sept. 28, 2017).

⁶³ *See* *Why Does Binded Use the Blockchain?*, BINDED, <https://help.binded.com/blockchain/why-does-binded-use-the-blockchain> (last visited Sept. 28, 2017). This assertion likely stems from the idea that a blockchain can only be updated and validated by a consensus among network participants. Should someone make a false ownership claim that gets placed on the blockchain, its invalidity will likely be recognized and permanently indicated in association with the user making the false claim. Additionally, anyone who wants to participate in the network is required to use cryptography, and repercussions for reckless behavior are limited to the reckless user. *See generally* TAPSCOTT &

copyright protection through their services as either an alternative or supplement to registering work with the United States Copyright Office.⁶⁴ As Mr. Lands of Binded explains, “We’re just building a platform that’s . . . like a one-stop-shop for copyright.”⁶⁵

III. ASCRIBE: ITS ALLEGED ABILITIES AND HOW IT IS VIOLATING THE LAW

Ascribe—which will be used as the representative example for the purpose of this paper—is one example of the recent trend of companies offering “a permanent and unbreakable link” between a creator and his work.⁶⁶ The service purports to allow a creator to securely share work, trace how it spreads on the internet, and transfer, consign, or loan work without losing attribution.⁶⁷ To start, a creator registers a work through the platform, then a composite of the digital artwork and the artist’s identity is generated into a cryptographic ID and stored on the blockchain.⁶⁸ Once the work is “ascribed” through this process, the user can then perform actions through the service such as transferring rights, setting limited editions, and tracking the chain of ownership.⁶⁹

TAPSCOTT, *supra* note 8, at 39; Ross Mauri, *Blockchain for Fraud Prevention: Industry Use Cases*, IBM (July 12, 2017), <https://www.ibm.com/blogs/blockchain/2017/07/blockchain-for-fraud-prevention-industry-use-cases/>.

⁶⁴ See Willms, *supra* note 61.

⁶⁵ DEPT. OF COM., *supra* note 43, at 79.

⁶⁶ ASCRIBE, <https://www.ascribe.io/> (last visited Sept. 28, 2017).

⁶⁷ Ascribe claims to secure ownership transactions through blockchain’s trusted registry, where all ownership actions are time-stamped. These actions—such as transfers and registration—are viewable on the blockchain as entries in a database. To make this record possible, the company’s creators developed a blockchain protocol called Secure Public Online Ownership Ledger (SPOOL). SPOOL is used specifically for time stamps on ownership transactions, and the protocol enables someone to search for the entire ownership history of a work on the blockchain. See TRENT MCCONAGHY & DAVID HOLTZMAN, TOWARDS AN OWNERSHIP LAYER FOR THE INTERNET 14 (2015), <https://bravenewcoin.com/assets/Whitepapers/ascribe-whitepaper-20150624.pdf>.

⁶⁸ It is worth noting that Ascribe does not indicate whether or not they search the blockchain for previously registered works that the user may be infringing upon. See *FAQ*, *supra* note 62.

⁶⁹ See *id.*

Ascribe claims to serve “any creator who wants to protect and manage their creative work. Ascribe lets you share your work knowing that your authorship claim is secured.”⁷⁰ The service undoubtedly has ambitious goals for ensuring the protection of work in the digital age, also claiming that “ascribing a work” equates to publicly designating oneself as the rights holder of the work.⁷¹ While Ascribe advertises itself as a straightforward and valuable resource for an owner of a work, its purpose and services appear to avoid the reality of basic copyright law. For example, an artist or creator claims copyright of their work from the moment it is created in fixed form; this proclamation need not be a public announcement.⁷² While the Ascribe website acknowledges this instant legal safeguard, the recognition is minimized by claims that Ascribe offers protection and proof of authenticity.⁷³

Perhaps most troubling among Ascribe’s litany of service benefits is its promise—tucked into the Terms of Service—that “registration and transfer are permanent.”⁷⁴ The Terms further elaborate that, “[o]nce a Work or Edition has been registered or the Work, Edition, or license transferred, it cannot be undone, because it has been written on the Bitcoin blockchain. What has been written to the blockchain cannot be unwritten.”⁷⁵ While the permanency of blockchain offers benefits in terms of establishing a creator’s ownership and identifying a chain of custody for the work, setting a transfer in stone raises significant legal issues, as there are laws in effect today that were designed specifically to prevent the irreversibility of such changes in ownership.⁷⁶

A. *The Termination Clause of the Copyright Act of 1976*

Just like any other property, all or part of the rights assigned to a copyrighted work are freely transferable by the owner to an

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² See 17 U.S.C. § 302(a) (2012) (“Copyright in a work created on or after January 1, 1978, subsists from its creation.”).

⁷³ See *FAQ*, *supra* note 62.

⁷⁴ *Terms*, ASCRIBE, <https://www.ascribe.io/terms/> (last visited Sept. 28, 2017).

⁷⁵ *Id.*

⁷⁶ See 17 U.S.C. § 203 (2012).

assignee.⁷⁷ Transfer of copyrights is common practice—from screenwriters to production companies, authors to publishers, and musicians to record labels, to give a few examples.⁷⁸ The relatively free transfer of copyrights is an important and integral practice for many members of the artistic community who are looking to profit from their craft.⁷⁹ The majority of artists simply do not have the status to be successful marketers of their work by virtue of their reputation alone.⁸⁰ The right to transfer is particularly important in the digital age, when consumers are endlessly bombarded with new material.⁸¹ The rate of media proliferation has reached a point where this abundance of content is almost unable to be archived in a complete manner, yet there is still a demand for novel artistry and innovative work.⁸² Many creators are responding to the demand, but

⁷⁷ "The ownership of a copyright may be transferred in whole or in part by any means of conveyance or by operation of law, and may be bequeathed by will or pass as personal property by the applicable laws of intestate succession." 17 U.S.C. § 201(d) (2012).

⁷⁸ See TAPSCOTT & TAPSCOTT, *supra* note 8, at 132.

⁷⁹ Museums are traditionally one of the most significant venues for artistic exposure. The Visual Artists and Galleries Association conducted a survey to assess the abuse of artists' rights by museums. They found that almost every major museum sought an allocation of all rights in an artist's work. If the artist did not sign and submit a grant of copyright, the museum may refuse to acquire future works from that artist. Since artists often count on museum exhibitions to increase and improve reputation, refusing a request for copyright transfer can be a highly detrimental risk. See Dorothy Weber-Karlitz, *Survey: Museums, Artists and Copyright*, 2 CARDOZO ARTS & ENT. L.J. 121, 121–23 (1983).

⁸⁰ For example, in thinking of a favorite movie soundtrack or current hit, the names of the composers or lyricists often will not naturally come to mind. Often, even major celebrity artists rely on ghostwriters as a part of their creative team, meaning that a great deal of successful creators are still anonymous. See Natalie Robehmed, *Phantom Rappers: Inside the Business of Ghostwriting*, FORBES (Sept. 22, 2015, 9:45 AM), <https://www.forbes.com/sites/nalierobehmed/2015/09/22/phantom-rappers-inside-the-business-of-ghostwriting/#6e526c511ec1> (explaining how ghostwriters, who are uncredited and receive upfront payment, capitalize on their talents without ever becoming famous in their own right).

⁸¹ See Marshall Leaffer, *Protecting Authors' Rights in a Digital Age*, 27 U. TOL. L. REV. 1, 2 (1995) (explaining that the United States has become an information and services based society where rapid technological change has drastically expanded the ability to both reproduce and receive information).

⁸² Copyright output in the United States is substantial. In 2013, the value added by all copyright industries to Gross Domestic Product exceeded \$1.9 trillion,

they often must sell their content (frequently to some detriment) in order to benefit from marketing and distribution tools they do not possess.⁸³ The difficult part of this process is that there is no way of predicting what work will become hugely successful.⁸⁴ For example, in early 2017, Paul McCartney filed suit against music publisher Sony/ATV to reclaim his copyright ownership of some of The Beatles' most famous songs.⁸⁵ The rights in question are for tracks on the band's first studio album, which were transferred before the members had any concept of how famous they would ultimately be.⁸⁶

Prior to 1976, reclaiming rights on copyrighted material was a procedurally agonizing process. Under the Copyright Act of 1909, the creator received protection for a work which lasted for 28 years from the date of its first publication, with the possibility of an additional 28 years if timely renewed.⁸⁷ If the creator transferred rights in the work to someone else at the outset, he or she had the ability to renew and reclaim his or her rights after the original 28 year period passed.⁸⁸ If the copyright was not timely renewed in compliance with the correct procedure, the work became public

making up 11.44% of the U.S. economy. See STEPHEN E. SIWEK, COPYRIGHT INDUSTRIES IN THE U.S. ECONOMY: THE 2014 REPORT 2 (2014), http://www.wipo.int/export/sites/www/copyright/en/performance/pdf/econ_contribution_cr_us_2015.pdf.

⁸³ "From its earliest manifestations, copyright law has struggled to deal with the equitable and efficient division of value and control between creators and the enterprises that distribute their works." 3 Nimmer on Copyright § 11.07 (2017).

⁸⁴ See Sherman M. Franklin, *An Examination of the Copyright Act of 1976*, 16 L. NOTES GEN. PRAC. 59, 63 (1980) (establishing that the possibility of new artists being forced to sell all their rights in a work before they have a chance to determine the work's value is an issue recognized by the legislature).

⁸⁵ See Jeff Kobulnick, *Copyright Ownership (That's What McCartney Wants)*, FORBES (Jan 24, 2017 12:21 PM), <https://www.forbes.com/sites/legalentertainment/2017/01/24/copyright-ownership-thats-what-mccartney-wants/#63cea71a3879>.

⁸⁶ As of February 2, 2014, The Beatles have sold 1.6 billion singles and 177 million albums in the United States, and worldwide album sales top 600 million. See *The Beatles, By the Numbers*, CBS (February 2, 2014, 9:21 AM) <https://www.cbsnews.com/news/the-beatles-by-the-numbers/>.

⁸⁷ See H.R. Rep. No. 60-2222, at 14 (1909).

⁸⁸ See *id.*

domain.⁸⁹ This renewal system was purportedly designed to protect creators who sold the rights to their works for fairly small sums early on, enabling them to reclaim their copyrights for the renewal term in order to benefit from unexpected long-term success of the work.⁹⁰ The Committee of the Whole House submitted a report with the Act proposal, stating that

“[i]t not infrequently happens that the author sells his copyright outright to a publisher for a comparatively small sum. If the work proves to be a great success and lives beyond the term of twenty-eight years . . . it should be the exclusive right of the author to take the renewal term, and the law should be framed . . . so that he could not be deprived of that right.”⁹¹

While this theoretically appeared to be a favorable approach for original copyright holders, it was not in practice.⁹² All too often, creators who had minimal bargaining power were coerced into assigning their original copyright *and* the renewal terms over to publishers or producers at the outset.⁹³ Understandably, such creators were often unaware that their work might be hugely successful one day.⁹⁴ The courts did not immediately come to the aid of these creators: in *Fred Fisher Music Co. v. M. Witmark & Sons*,⁹⁵ the Supreme Court held that “the Copyright Act of 1909 does not nullify agreements by authors to assign their renewal interests.”⁹⁶ Several decades later, Justice White decried this holding as having “substantially thwarted” the purpose of the Act’s renewal provision by permitting the inadvertent destruction of its protections for

⁸⁹ *See id.*

⁹⁰ *See id.*

⁹¹ *Id.*

⁹² *See, e.g., Fred Fisher Music Co. v. M. Witmark & Sons*, 318 U.S. 643 (1943) (holding that an assignment of renewal interests by the writer of the song “When Irish Eyes Are Smiling” to a firm of music publishers was enforceable); *Tobias v. Joy Music, Inc.*, 204 F. Supp. 556 (S.D.N.Y. 1962) (finding that song authors contracted away their renewal rights to a publisher).

⁹³ H.R. REP. NO. 1476, at 124.

⁹⁴ *Id.* (“A provision [like the termination clause] is needed because of the unequal bargaining position of authors, resulting in part from the impossibility of determining a work’s value until it has been exploited.”).

⁹⁵ 318 U.S. 643 (1943).

⁹⁶ *Id.* at 657.

creators by allowing renewal rights to be surrendered “at the time when the value of the copyrighted work was most uncertain.”⁹⁷

The shaky renewal rights of copyright holders under the original Act were improved on January 1, 1978, with the enactment of the Copyright Act of 1976, which remains current law.⁹⁸ The Act replaced the old two-term system (which allowed for a potential of 56 years of protection) with a single term enduring for the life of the author plus 50 years.⁹⁹ Any copyrights already in existence had the benefit of the second term of renewal expanded by 19 years, bringing the total potential term of copyright to 75 years.¹⁰⁰

In addition, the Copyright Act of 1976 created a right of termination for original copyright holders, meaning that creators and specified heirs could recapture their rights in works that they had previously granted to third parties.¹⁰¹ The 1976 Act was accompanied by a House Report explaining that “[a] provision of this sort is needed because of the unequal bargaining position of authors, resulting in part from the impossibility of determining a work’s value until it has been exploited.”¹⁰² While this reasoning seems strikingly similar to the justification for the 1909 renewal

⁹⁷ *Mills Music, Inc. v. Snyder*, 469 U.S. 153, 185 (1985) (White, J., dissenting). This case involved royalty distributions from a song under the derivative works exception to the termination provision of the Copyright Act of 1976. *Id.* The song composer’s heirs terminated the composer’s copyright assignment to Mills, a music publisher, and a dispute arose as to whether Mills could continue receiving mechanical royalties on licensed derivative works made prior to termination. *Id.* at 155–56. The Court concluded that under the grant’s terms at the time of termination, Mills could justly collect royalties accumulating after termination. *Id.* at 177–78. In trying to limit freedom to contract in this area, Congress must be very specific with its intent to control what types of rights can be signed away. *See id.* at 170.

⁹⁸ Many of the changes brought about by the new Act were the result of advances in technology since 1909. *See Franklin, supra* note 84, at 59.

⁹⁹ 17 U.S.C. § 302(a) (1994) (amended 1998). Today, as a result of the Act’s amendment, works created on or after January 1, 1978 are protected for the life of the author plus 70 years. 17 U.S.C. § 302(a) (2012).

¹⁰⁰ Since the initial adoption of the act, the duration of these copyright protections has been expanded to 95 years. 17 U.S.C. § 304(b) (2012).

¹⁰¹ *Id.* § 203.

¹⁰² H.R. REP. NO. 94-1476, at 124 (1976).

procedure, insertion of the word “termination” is what marks the real change.¹⁰³

Section 203 of the Copyright Act permits authors to terminate grants of copyright assignments and licenses that were made on or after January 1, 1978, in certain conditions, and as long as they were not created as a made-for-hire work.¹⁰⁴ After 35 years from the date of execution of the grant, termination may be filed during a period of five years; or, if the grant permits the right of publication, termination may be filed within a five-year period either 35 years from the date of publication or 40 years from the date of execution of the grant.¹⁰⁵ The original owner(s) or agent(s)¹⁰⁶ must: (1) serve an advance notice in writing that states the effective date of the termination and; (2) record a copy of the notice in the Copyright Office before the effective date of termination.¹⁰⁷ On that termination date, the persons owning the termination interests will regain all rights provided under the Copyright Act with respect to the returned work.¹⁰⁸ The only exception to this rule is that any derivative works created under the authority of the grant prior to termination may continue to be used after the termination takes effect.¹⁰⁹ This right is a powerful one, as it allows copyright owners to terminate transfers “notwithstanding any agreement to the contrary.”¹¹⁰ Creators are given, through the termination clause, an inalienable right to their work.¹¹¹

¹⁰³ Compare H.R. Rep. No. 60-2222, at 14 (1909) with 17 U.S.C. § 203 (2012).

¹⁰⁴ 17 U.S.C. § 203 (2012). Made-for-hire work is “prepared by an employee within the scope of his or her employment” or “a work specially ordered or commissioned for use” in a variety of circumstances. *Id.* § 101.

¹⁰⁵ *Id.* § 203(a)(3).

¹⁰⁶ If an author is dead, his or her termination interest may be exercised by a widow or widower, surviving children or grandchildren, trustee, or executor, pursuant to *Id.* § 203(a)(2).

¹⁰⁷ *Id.* § 203(a)(4).

¹⁰⁸ *Id.* § 203(b).

¹⁰⁹ *Id.* § 203(b)(1).

¹¹⁰ *Id.* §§ 203(a)(5), 304(c)(5).

¹¹¹ *Stewart v. Abend*, 495 U.S. 207, 230 (1990) (“The 1976 Copyright Act provides a single, fixed term, but provides an inalienable termination right.”).

This legal safeguard provides an invaluable protection for copyright owners and, as a result, has been viewed as paternalistic.¹¹² The Supreme Court has propelled this stance by explaining that “the termination right was expressly intended to relieve authors of the consequences of ill-advised and unremunerative grants that had been made before the author has a fair opportunity to appreciate the true value of his work product.”¹¹³ A related rationale emphasizes the valuation-of-creation problem over the perceived weakness of authors in business dealings.¹¹⁴ The unpredictability of a work’s value, however, is a risk borne by both authors and publishers,¹¹⁵ and the right of termination is not exercised with great frequency.¹¹⁶ Nevertheless, this provision of the Act of 1976 remains an effective change in U.S. copyright law and is free to be exercised by any copyright holder during the appropriate timeframe.¹¹⁷

¹¹² See Kevin J. Hickey, *Copyright Paternalism*, 19 VAND. J. ENT. & TECH. L. 415, 417–18 (2017) (explaining that by allowing authors to undo past transfers, the law is protecting them from the repercussions of their own decisions).

¹¹³ *Mills Music, Inc. v. Snyder*, 469 U.S. 153, 172–73 (1985).

¹¹⁴ See Lydia Pallas Loren, *Renegotiating the Copyright Deal in the Shadow of the “Inalienable” Right to Terminate*, 62 FLA. L. REV. 1329, 1345 (2010); R. Anthony Reese, *Reflections on the Intellectual Commons: Two Perspectives on Copyright Duration and Reversion*, 47 STAN. L. REV. 707, 733 (1995) (“[T]he 1976 Act’s drafters [explained] that this need [for termination] was premised not on a perception of authors as poor businesspeople, but on a perception of creative works as inherently difficult to value before exploitation in the market.”).

¹¹⁵ See Kate Darling, *Occupy Copyright: A Law & Economic Analysis of U.S. Author Termination Rights*, 63 BUFF. L. REV. 147, 202 (2015) (“[T]he uncertain future value of artistic works makes it in the author’s interest to allocate the risk of success or failure to the publisher. It is one of the reasons why publishers exist in the first place.”).

¹¹⁶ See Loren, *supra* note 114, at 1352–53 (“The reality is that the termination rights will be exercised only for very successful works with commercial staying power. However, all copyright transfers are subject to termination rights. If the bargained for price for the transfers includes a discount for the possibility of termination, then unsuccessful authors may be suffering at the cost of extremely successful ones.”).

¹¹⁷ See 17 U.S.C. § 203 (2012).

B. *How Ascribe's Business Model Violates and Otherwise Ignores Federal Copyright Law*

Since the Termination Clause of the Copyright Act applies to any grant executed on or after January 1, 1978, all transfers noted on a blockchain will be given its protections.¹¹⁸ This presents a concerning paradox. If blockchain is known and utilized largely for its creation of a permanent record,¹¹⁹ how are copyright transfers able to be recorded if they are protected by law from permanence?

To reiterate, blockchain is an append-only data store, so while information can be added, it cannot be deleted.¹²⁰ Ascribe assures users that they retain full ownership of their Works,¹²¹ but they can securely and permanently license or transfer rights to those Works through documentation on the blockchain.¹²² Under federal law, there is no such thing as a permanent transfer.¹²³ Therefore, not only are Ascribe's claims in conflict with the Copyright Act, but they also misinform users about the security of a transfer through the service. A copyright owner's exclusive rights may, of course, be transferred, but the transfer is not valid unless it is in writing and signed by the owner of the rights conveyed or such owner's duly authorized agent.¹²⁴ Recordation of such a transfer with the U.S. Copyright Office is not even required to make it valid between the parties under federal law.¹²⁵ Yet Ascribe appears to adhere to none of these legal

¹¹⁸ Bitcoin, the first significant blockchain innovation, was introduced in 2008. Blockchain came about when it was realized that the technology that operated bitcoin did not have to be tied to the currency but could also be used in a wealth of other capacities. See Vinay Gupta, *A Brief History of Blockchain*, HARV. BUS. REV. (February 28, 2017), <https://hbr.org/2017/02/a-brief-history-of-blockchain>.

¹¹⁹ See Gabison, *supra* note 24, at 330.

¹²⁰ See Tennison, *supra* note 25.

¹²¹ As the Terms read, "Works" as defined by Ascribe are "physical or digital items, objects, or other properties or services that are digital or can be represented digitally (e.g. photos or other image files, 3D-STL files, physical property, texts, music, videos, licenses, etc.)." In order to register such a Work with Ascribe, the user "must hold copyright in the Work, own the Work, or have rights in the Work that allow you to register it." *Terms*, *supra* note 74.

¹²² See *id.*

¹²³ See 17 U.S.C. § 203 (2012).

¹²⁴ *Id.* § 204(a).

¹²⁵ *Id.* § 204(b). When the United States implemented the Berne Convention in 1989 (an international agreement governing copyright), it eliminated the

guidelines, instead boasting claims such as, “[t]ransfer, consign or loan your digital creations without losing attribution,” and “[t]ransferring work is made as easy as sending an email. Literally.”¹²⁶

These assertions are not the only ones made by Ascribe that have questionable legal validity. Trent McConaghy, the company’s CTO, co-authored a white paper published in 2015 that further elaborates on the mission of Ascribe.¹²⁷ In it, he broadly declares that the Ascribe Terms of Service “makes the legals easy to use by creators and consumers.”¹²⁸ The Terms of Service outline the actions that can be taken by users in relation to their work, such as claiming rights in a copyrighted work or transferring or licensing their work.¹²⁹ McConaghy refers to these actions as “copyright in a box,” assuring that Ascribe will take care of all the legal complexities of copyright ownership.¹³⁰

Such false claims undoubtedly expose Ascribe to potential legal repercussions. Erroneous statements about a company’s services put that company at risk for a false advertising suit under the Lanham Act.¹³¹ Enacted in 1946, the Lanham Act serves as the federal trademark law.¹³² It offers protection under Section 43(a)—or 15 U.S.C. § 1125(a)—against false designations and representations that are deceptive.¹³³ A person who uses any “false or misleading description [or] representation of fact” that is likely to “deceive as

mandatory recordation requirement for transfers. *See* Berne Convention Implementation Act of 1988, Pub. L. No. 100-568, 102 Stat. 2853, 2857. Although not required, recordation of transfer with the Copyright Office is beneficial for several reasons: it can establish legal priority between conflicting transfers; it establishes a public record of the contents of the transfer; and it may provide constructive notice of the facts stated in the document. *See* COPYRIGHT OFFICE, CIRCULAR 12, RECORDATION OF TRANSFERS AND OTHER DOCUMENTS 2 (Sept. 2016), <https://www.copyright.gov/circs/circ12.pdf>.

¹²⁶ *See* ASCRIBE, *supra* note 66.

¹²⁷ *See generally* McConaghy & Holtzman, *supra* note 67.

¹²⁸ *Id.* at 21.

¹²⁹ *Id.*

¹³⁰ *Id.*

¹³¹ *See* Lanham Act § 43(a)(1)(B), 15 U.S.C. § 1125(a)(1)(B) (2012).

¹³² *See* 2 PETER S. MENELL, MARK A. LEMLEY, & ROBERT P. MERGES, INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE: 2017 865 (2017).

¹³³ *See* Lanham Act § 43(a)(1)(B), 15 U.S.C. § 1125(a)(1)(B) (2012).

to . . . the origin, sponsorship, or approval of his or her . . . services” stands to be liable.¹³⁴ Making a false or misleading description or representation of fact which “in commercial advertising or promotion, misrepresents the nature, characteristics, [or] qualities” of one’s goods or services is likewise actionable under Section 1125(a).¹³⁵ Ascribe’s representation of offered services makes at least one false statement by advertising their ability to record valid transfers on the blockchain.¹³⁶ This claim, by virtue of being facially untrue, would eliminate a potential plaintiff’s need to prove any amount of actual confusion according to existing case law.¹³⁷

Ascribe may also be violating the Lanham Act by leading consumers to believe that the U.S. Copyright Office approves of or endorses their service as a means of valid registration.¹³⁸ Because a

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ See TERMS, *supra* note 74.

¹³⁷ When an advertisement is false on its face, courts often presume that consumers will plainly be deceived, thus eliminating any need for a plaintiff to prove actual confusion on the part of consumers. See, e.g., *Cashmere & Camel Hair Mfg. Inst. v. Saks Fifth Ave*, 284 F.3d 302 (1st Cir. 2002) (finding that a company was presumed to have deceived customers because their misrepresentation about the amount of cashmere in a sweater was literally false); *Novartis Consumer Health Inc. v. Johnson & Johnson-Merck Consumer Pharms. Co.*, 290 F.3d 578 (3d Cir. 2002) (holding that an entirely unsubstantiated advertising claim is necessarily literally false, therefore enacting the presumption).

¹³⁸ In the “Copyright” section of their FAQ page, Ascribe states that “copyright law was never meant to be wielded by normal people. They [sic] were designed for big publishers. We are working to make copyright accessible for everyone.” In response to the question, “If I register work with ascribe, have I done enough to register a copyright claim?” Ascribe avoids any mention of registration with the U.S. Copyright Office, instead touting the benefits of registering with Ascribe. This statement arguably reads like an implicit suggestion that registration with Ascribe is sufficient for copyright protection. The next question finally asks, “What about the U.S. Copyright Office?” Ascribe mentions “additional” benefits provided by the U.S. Copyright Office, but then goes on to say that registering work on Ascribe “helps everyone protect their rights.” In the “Legals” section of this page, Ascribe further emphasizes their alleged legal powers by saying, “[c]opying is part of the law and ascribe lets individuals benefit from it . . . we’re leveraging the existing laws to help individuals use them.” The takeaway from these portions of the FAQ page, it may be argued, is that Ascribe offers an easy,

layperson's understanding of copyright law is generalized at best, it is likely that an advertisement from Ascribe offering quick and easy protection runs the risk of causing copyright owners to assume that registration through a service is valid. A false advertising claim may very well be brought against Ascribe in the future,¹³⁹ and this possibility should serve as a cautionary tale for other startups trying to utilize the seemingly limitless possibility of blockchain technology.

What Ascribe legitimately *can* provide as a service is time-stamped evidence of ownership, to the extent that it can be established simply by recording a user-submitted work on the blockchain.¹⁴⁰ This evidence is essentially a modern version of the "poor man's copyright," which is ultimately of little to no value.¹⁴¹ The poor man's copyright myth claims that by sealing up a copy of an original work and mailing it to himself, an author can maintain an unopened copy of his work with a federal date stamped on it to prove that he was the original creator.¹⁴² There is no case law supporting the legitimacy of any legal benefit to this act.¹⁴³ In fact,

legally forceful, *legitimate* way for copyright holders to protect their rights while avoiding complex legal hurdles. *See FAQ, supra* note 62.

¹³⁹ In *Lexmark Intl., Inc. v. Static Control Components Inc.*, 134 S. Ct. 1377 (2014), the Supreme Court clarified the standing requirements for bringing false advertising claims under the Lanham Act. Plaintiffs have standing under Section § 43(a)(1)(B) if their interests fall within the "zone of interests" protected by the statute, which consists of "protecting persons engaged in commerce within the control of Congress," and if their injuries are proximately caused by violations of the statute. *Lexmark*, 134 S. Ct. at 1389–91.

¹⁴⁰ MCCONAGHY & HOLTZMAN, *supra* note 67, at 21.

¹⁴¹ See Lily Hay Newman, *The Poorest Man's Copyright*, SLATE (May 2 2014 12:06 PM), http://www.slate.com/articles/technology/history_of_innovation/2014/05/poor_man_s_copyright_mailing_something_to_yourself_doesn_t_work.html. Ascribe, perhaps inadvertently, actually advertises its service by equating it to a poor man's copyright. In the FAQ section of their website, Ascribe explains that, "registering a work on ascribe . . . [has] the same effect as putting your artwork onto a DVD and mailing it to yourself." *FAQ, supra* note 62.

¹⁴² *Id.*

¹⁴³ While three cases use the term "poor man's copyright," *Smith v. State*, No. 108916, 2009 WL 2451008 (N.Y. Ct. Cl. July 14, 2009); *Barefoot v. Goulian*, No. 5:08-CT-3162-D, 2010 WL 2696760, at *3 (E.D.N.C. July 7, 2010); and *Swenson v. Bender*, No. C9-06-7901, 2008 WL 2382757 (Dist. Ct. Minn. Feb. 22, 2008),

this widely shared falsehood has been directly invalidated by the Copyright Office, which explains that “[t]here is no provision in the copyright law regarding any such type of protection, and it is not a substitute for registration.”¹⁴⁴

Applying for registration with the U.S. Copyright Office is not a herculean challenge; it requires an online registration form, a nonrefundable filing fee,¹⁴⁵ and a nonreturnable deposit (a copy of the work that is “deposited” with the Copyright Office).¹⁴⁶ Although the processing time for a given application can vary, the Copyright Office aims to protect creators from the earliest possible moment.¹⁴⁷ Any time a registration certificate is issued, the Office “assigns as the effective date of registration the date it received all required elements in acceptable form, regardless of how long it took to process the application and mail the certificate of registration.”¹⁴⁸ Benefits of registering a copyright go beyond the establishment of a public record of a claim.¹⁴⁹ Registration enables a copyright owner to file an infringement suit in court, and it makes that owner eligible for statutory damages, attorneys’ fees, and costs if “registration is made prior to infringement or within three months after publication of a work.”¹⁵⁰ It also constitutes prima facie evidence of the efficacy of the copyright and all information contained in the certificate of registration (including title, author, name, and address of copyright owner, year of creation, and publishing history) when registration is

none of these cases actually address the practice’s legal adequacy. See Eric Goldman, *How Will Courts Handle a “Poor Man’s Copyright”?*, TECH. & MKTG. L. BLOG (October 26, 2016) <http://blog.ericgoldman.org/archives/2016/10/how-will-courts-handle-a-poor-mans-copyright.htm>.

¹⁴⁴ *Copyright in General*, U.S. COPYRIGHT OFFICE, <https://www.copyright.gov/help/faq/faq-general.html> (last visited Sept. 28, 2017).

¹⁴⁵ Ascribe does not charge users for its services. See *Press Kit*, ASCRIBE, (<https://www.ascribe.io/wp-content/uploads/2015/10/ascribe-Press-Kit-2015.pdf>).

¹⁴⁶ U.S. COPYRIGHT OFFICE, REGISTERING A COPYRIGHT WITH THE U.S. COPYRIGHT OFFICE 1 (2016) <https://www.copyright.gov/fls/sl35.pdf>.

¹⁴⁷ See *id.*

¹⁴⁸ *Id.*

¹⁴⁹ See U.S. COPYRIGHT OFFICE, COPYRIGHT BASICS 5 (2016) <https://www.copyright.gov/circs/circ01.pdf>.

¹⁵⁰ *Id.*

made before or within five years of publication.¹⁵¹ Finally, registration enables an owner to file a record with the U.S. Customs and Border Protection to safeguard against infringing copies that may be imported.¹⁵² Anyone with a valid copyright can file for registration, and the protections offered by this formal yet simple process are unparalleled.¹⁵³

“You know, there is no company building . . . a really good copyright registration system.”¹⁵⁴ This statement, made by the CEO of Binded at the December 2016 IPTF meeting, embodies the fundamental flaw of these companies—they simply do not acknowledge the reality that as U.S. law stands today, the only legally valid way to obtain benefits conferred by “copyright registration” is to register through the U.S. Copyright Office.¹⁵⁵ This registration, which is the “most important” step towards enhanced protection, is necessary to enforce the exclusive rights of copyright through litigation,¹⁵⁶ and the “protections” that Ascribe and similar companies offer certainly do not equate to what the U.S. Copyright Office can provide.

IV. HOW BLOCKCHAIN CAN BE USED TO BENEFIT COPYRIGHT HOLDERS

There is no doubt that blockchain technology has been successfully integrated into a myriad of industries and that it has been a groundbreaking development in the way various transactions can occur.¹⁵⁷ But the reality is that no matter how capable it may seem, blockchain simply cannot replace the current law. Unless and until legislation is proposed to establish the technology’s role in the protection of copyrights, the only valid security is obtained through

¹⁵¹ *Id.* (“[P]ublication is the distribution of copies or phonorecords of a work to the public by sale or other transfer of ownership or by rental, lease, or lending.”). For more information on the implications of publication, see *id.*

¹⁵² *See id.* at 5.

¹⁵³ *See id.*

¹⁵⁴ DEPT. OF COM., *supra* note 43, at 78.

¹⁵⁵ *See* U.S. COPYRIGHT OFFICE, *supra* note 149, at 4–5.

¹⁵⁶ *See id.* at 4.

¹⁵⁷ Williams-Grut, *supra* note 37.

registration of a work with the U.S. Copyright Office.¹⁵⁸ Companies are trying to market blockchain as a “means of proving ownership,”¹⁵⁹ but such third-party services offer “proof” that is, at least for now, both superfluous and without legal status.¹⁶⁰

This is not to say, however, that blockchain technology cannot be used to create tools to supplement copyright protection. The digital age has ushered in an era of ownership uncertainty due to the rapidly increased prevalence of content sharing.¹⁶¹ There is a delicate balance to be struck between the need to protect intellectual property from unauthorized use and the interest in fostering creative innovation.¹⁶² Ultimately, attempting to prevent the unauthorized use of copyrighted material in the digital age will prove futile.¹⁶³ The real issue is the lack of attribution given to copyright owners, and there is a need for greater transparency regarding how and where a given work is spreading.¹⁶⁴ “As an economic design principle, enforcing rights must start with clarifying rights.”¹⁶⁵ Creating a better system for determining ownership of work will reward creation, one of the primary goals of copyright law.¹⁶⁶

Lawmakers have sought to respond to technological advances and to the Internet Age in relation to enforcing copyright protection, most notably through the 1998 amendment to the Copyright Act of 1976.¹⁶⁷ This amendment, entitled the Digital Millennium Copyright

¹⁵⁸ *Registration Portal*, U.S. COPYRIGHT OFFICE, <https://www.copyright.gov/registration/> (last visited Sept. 28, 2017).

¹⁵⁹ TAPSCOTT & TAPSCOTT, *supra* note 8, at 46.

¹⁶⁰ See Jessie Willms, *supra* note 61.

¹⁶¹ See Bradley S. Shear, *Copyright Protection in the Digital Age*, ACC 1 (Sept. 7, 2010), <http://www.acc.com/legalresources/quickcounsel/icpituscaeu.cfm?makepdf=1>.

¹⁶² See MENELL ET AL., *supra* note 132.

¹⁶³ Richard H. Chused, *The Legal Culture of Appropriation Art: The Future of Copyright in the Remix Age*, 17 TUL. J. TECH. & INTELL. PROP. 163, 183 (2014) (“[D]igital copying is very difficult, if not impossible, to suppress.”).

¹⁶⁴ See generally Ben Depoorter et al., *Copyright Abolition and Attribution*, 5 REV. L. & ECON. 1063 (Dec. 2009) (envisioning an attribution-based copyright system as a means of strengthening a creator’s competitive position against unauthorized copiers).

¹⁶⁵ TAPSCOTT & TAPSCOTT, *supra* note 8, at 48.

¹⁶⁶ See MENELL ET AL., *supra* note 132.

¹⁶⁷ See *id.* at 496; Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (codified at 17 U.S.C. §§ 1201–1205 (Supp. IV 1998)).

Act (“DMCA”), was implemented in part to help copyright holders protect their online content.¹⁶⁸ It gives creators rights against infringers who sidestep copyright protection technologies.¹⁶⁹ When an author becomes aware that his work is being infringed upon, he can notify the Internet Service Provider (“ISP”) and Online Service Provider (“OSP”) that is hosting the alleged infringement.¹⁷⁰ He can then request that the infringing work be removed, while the DMCA protects the ISP/OSP from liability, provided that they act “expeditiously” to remove the copyrighted work.¹⁷¹ One of the primary obstacles limiting the effectiveness of this safeguard is that the vast expanse of the internet makes it difficult to find the infringing work in the first place.¹⁷²

Ascribe, despite its sizeable legal shortcomings, offers a valuable service that utilizes blockchain technology to allow creators to track the distribution of a given work.¹⁷³ Its “WhereOnTheNet” platform allows artists who ascribe a work on the blockchain to track their content’s movement on the web.¹⁷⁴ The software reports which sites a given image has appeared on and the date that the image was added.¹⁷⁵ Through an “image similarity match method,” even versions of images that have been slightly cropped, filtered, or otherwise edited will be located.¹⁷⁶ The copyright owner is then able to reach out to the appropriate service providers to request that any infringing work be removed.¹⁷⁷ The ability to see how one’s work is spreading is not only helpful for

¹⁶⁸ See S. REP. NO. 105-190, at 2 (1998).

¹⁶⁹ See *id.* at 12.

¹⁷⁰ See *id.* at 45.

¹⁷¹ See *id.*

¹⁷² See John M. Owen, *Graduated Response Systems and the Market for Copyrighted Works*, 27 BERKELEY TECH. L.J. 559, 564 (2012).

¹⁷³ See Joseph Young, *Ascribe Enables Users to Track Their Digital Content on the Web Using the Blockchain*, NEWSBTC (Jan. 13, 2016, 3:57 AM), <http://www.newsbtc.com/2016/01/13/ascribe-enables-users-to-track-their-digital-content-on-the-web-using-the-blockchain/>.

¹⁷⁴ See *id.*

¹⁷⁵ WHEREONTHE.NET, <https://www.whereonthe.net/t1avjb> (last visited Oct. 20, 2017).

¹⁷⁶ See *FAQ*, ASCRIBE, <https://www.ascribe.io/faq/> (last visited Sept. 28, 2017).

¹⁷⁷ See S. REP. NO. 105–190, at 45 (1998).

detecting copyright infringement, but it also allows the artist to better identify his audience and the popularity of a particular work.¹⁷⁸

Mediachain is another company working with blockchain technology to improve transparency regarding the use of copyrighted material.¹⁷⁹ Mediachain uses perceptual recognition technology to detect a portion of the sound or appearance of a piece of uploaded media.¹⁸⁰ The application then uses machine learning to identify and locate duplications or copies of the media.¹⁸¹ Their “Attribution Engine,” powered entirely by open and decentralized data, allows anyone to search through a database of millions of openly licensed images or upload an image from the web to determine its origin and creator.¹⁸² Mediachain’s mission to make ownership information accessible extends to many copyrightable mediums.¹⁸³ The company was acquired by Spotify earlier this year to help the music streaming service solve attribution problems and create greater transparency and higher reward for members of the music industry.¹⁸⁴

Blockchain technology is demonstrating potential in more specialized segments of copyright protection as well. Verisart, for example, is a start-up that looks to solve a narrower problem in verifying original work.¹⁸⁵ Determining authenticity of fine art has for a long time been controlled by a small group of experts with

¹⁷⁸ Denis Nazarov, *Introducing Mediachain Attribution Engine* (Oct. 24, 2016), <https://blog.mediachain.io/introducing-mediachain-attribution-engine-2dc1ea6aa31f>. (“At Mediachain Labs, our mission is to connect creators directly to their fans, no matter how or where their creativity is shared.”).

¹⁷⁹ See George Howard, *Mediachain Facilitates Automatic Attribution Using Blockchain and Machine Learning*, FORBES (Jul 29, 2016, 04:30 PM), <https://www.forbes.com/sites/georgehoward/2016/07/29/mediachain-facilitates-automatic-attribution-using-blockchain-and-machine-learning/#13d24c2d7fb8>.

¹⁸⁰ See *id.*

¹⁸¹ See *id.*

¹⁸² See Denis Nazarov, *Introducing Mediachain Attribution Engine*, MEDIACHAIN BLOG (Oct 24, 2016), <https://blog.mediachain.io/introducing-mediachain-attribution-engine-2dc1ea6aa31f>.

¹⁸³ MEDIACHAIN, <http://www.mediachain.io/> (last visited Oct. 20, 2017).

¹⁸⁴ See Stan Higgins, *Spotify Acquires Blockchain Startup Mediachain*, COINDESK (Apr. 26, 2017), <https://www.coindesk.com/spotify-acquires-blockchain-startup-mediachain/>.

¹⁸⁵ VERISART, <https://www.verisart.com/> (last visited Oct. 20, 2017).

access to highly restricted databases.¹⁸⁶ It traditionally takes a great deal of time and effort to determine the artist of a particular piece, where the original is stored, and what type of condition it is in.¹⁸⁷ Verisart utilizes blockchain technology combined with museum metadata to create a public database available to all members of the art world.¹⁸⁸ Through the use of the company's app or website, users can check a work's authenticity, condition, and chain of title before making a purchase or participating in an online auction.¹⁸⁹ Founder Robert Norton explains, "We believe technology can aid trust and liquidity especially as more of the \$67 billion annual art market shifts to private sales (peer-to-peer) and online transactions."¹⁹⁰

Startups like Verisart and Mediachain's approach to protecting copyrights through blockchain technology is appropriate for the current legal landscape. They do not claim to be registration services but instead work to create an increased level of transparency surrounding ownership of original work. At the moment, it appears that establishing chains of ownership and distribution are the best applications of blockchain technology in this area.¹⁹¹ Still, progressive strategies and innovation continue to highlight

¹⁸⁶ TAPSCOTT & TAPSCOTT, *supra* note 8, at 133.

¹⁸⁷ See generally Danielle Rahm, *Lack of Authenticating Expert Renders Valuable Artwork Practically Worthless*, FORBES (May 16, 2013 11:08 AM), <https://www.forbes.com/sites/daniellerahm/2013/05/16/lack-of-authenticating-expert-renders-valuable-artwork-practically-worthless/#3c070e64264e>.

¹⁸⁸ See VERISART, *supra* note 185.

¹⁸⁹ See *Terms*, VERISART, <https://www.verisart.com/terms> (last visited Sept. 28, 2017).

¹⁹⁰ Mike Butcher, *Verisart Plans to Use the Blockchain to Verify the Authenticity of Artworks*, TECHCRUNCH (July 7, 2015), <https://techcrunch.com/2015/07/07/verisart-plans-to-use-the-blockchain-to-verify-the-authenticity-of-artworks/>.

¹⁹¹ See, e.g., Daniel Cawrey, *How Bitcoin's Technology Could Revolutionize Intellectual Property Rights*, COINDESK (May 8, 2014), <https://www.coindesk.com/how-block-chain-technology-is-working-to-transform-intellectual-property/>; Francis Oustry, *Blockchain Based Solutions for Intellectual Property Management*, MEDIUM (May 21), <https://medium.com/@foustry/blockchain-based-solutions-for-intellectual-property-management-2ba14b51d5f6>; *Blockchain Technology and Intellectual Property Ownership*, GRANTTHORNTON (31 Oct 2017), <http://www.grantthornton.com/mt/insights/blockchain-technology-and-intellectual-property-ownership/>.

promising avenues of improving existing copyright protections through blockchain.¹⁹²

V. CONCLUSION

Artists and content creators face increasingly daunting challenges in their quest to keep track of where, when, and how their works are used. Technology and the dramatic daily influx of new material make it possible for anyone to produce work in their own right, and the understanding of how to protect that work can be easily blurred by companies offering services they cannot actually provide. The current digital landscape creates the impression that protection of media is not only impossible but increasingly irrelevant as works are constantly shuffled, remixed, and otherwise altered. Until a system is established that is more attuned to how individuals consume media and interact with technology, it is critical to realize that valuable and valid protections are still available through the traditional system. Above all, “[w]e need greater education about rights” in order to understand how to go about protecting them.¹⁹³

This mission is thwarted when companies like Ascribe advertise the ability to protect copyrights and ensure the permanence of ownership transfers for the sake of luring users who do not understand the basics of copyright law. These claims are misleading, and some of the services Ascribe purports to provide are in violation of federal copyright law. Ascribe should not only remove illegitimate services from its business model, but it should work to provide greater clarity about legal copyright protection and the limits of its remaining services. Offering greater transparency in

¹⁹² Symposiums and discussions aimed at merging blockchain technology with copyright law have grown in prevalence during the past year. *See generally* DEPT. OF COM., *supra* note 43, at 6; Balazs Bodo & Joao Pedro Quintais, *Blockchain Copyright Symposium*, KLUWER COPYRIGHT BLOG (June 27, 2017), <http://copyrightblog.kluweriplaw.com/2017/06/27/blockchain-copyright-symposium/>; *Blockchain and Copyright Symposium*, UNIVERSITEIT VAN AMSTERDAM, <https://www.ivir.nl/blockchain-copyright-symposium/> (last visited Oct. 20, 2017).

¹⁹³ TAPSCOTT & TAPSCOTT, *supra* note 8, at 49.

copyright ownership starts with honesty about how to secure copyright protection in the first place.