

Non-fungible Tokens in Commercial Transactions

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Abstract The auction of Bored Ape #8817 for \$3.4 million in October 2021 marked a watershed moment in the escalating trend of non-fungible tokens (NFTs). This chapter ventures into the core of the tokenization phenomenon, scrutinizing the legal implications of creating digital representations (tokens) of diverse assets. Amid the burgeoning NFT market, a pivotal question emerges: What precisely are the property rights conferred upon those acquiring these tokens? Beyond the staggering sales figures, the chapter dissects the tokenization process, emphasizing the NFT minting process and blockchain technology. It explores claims that NFTs herald the future of digital property, challenging traditional governmental powers. Anticipating legal challenges, the chapter navigates critical inquiries about token holders' rights, the tethering (or not) of tokens to underlying assets, and the impact of the 2022 Uniform Commercial Code revisions. This chapter seeks to provide a nuanced perspective, unraveling legal realities from the fervor surrounding tokenization's transformative potential in the digital era.

INTRODUCTION

In October 2021, the digital image of an ape with a wearied and uninterested expression – known as Bored Ape #8817 – sold for an astounding \$3.4 million in an online auction by Sotheby's.¹ Actually, it was not really the digital ape that was sold. Rather, the auction was for a token representing the graphic. Although noteworthy for its price, this bored ape non-fungible token (NFT) was just the latest in the tokenization craze – the idea of creating a unique digital representation (a token)

* This chapter is based, either in whole or in part, on Juliet M. Moringiello & Christopher K. Odinet, *The Property Law of Tokens*, 74 FLA. L. REV. 607 (2022).

¹ Rajpalsinh, *BAYC #8817 Makes New Record with \$3.4M Sale on Sotheby's Metaverse*, CRYPTO TIMES (Oct. 27, 2021, 3:58 PM), [www.cryptotimes.io/bayc-8817-makes-new-record-with-3-4m-sale-on-sothebys-metaverse/](https://cryptotimes.io/bayc-8817-makes-new-record-with-3-4m-sale-on-sothebys-metaverse/) [<https://perma.cc/69LG-8TCJ>].

of a particular asset, which proponents assert will upend government and property law as we know it.²

This chapter gets to the heart of the real question: What does it really mean to *tokenize* something under the law? In other words, what property rights does the owner of the bored ape token receive? Ownership? Some other kind of property entitlement? If the right is a property right, is it a property right in just a token, or is it some right in the Bored Ape image? Perhaps the owner receives a contract right. Maybe the owner receives only bragging rights. The answers to these questions have tremendous implications for just how revolutionary tokenization can really be.

To be sure, the market for NFTs has grown at an impressive rate.³ Aside from Bored Ape #8817 and its multi-million-dollar bounty (and the many other NFTs in the bored apes series that have sold for millions of dollars⁴), the NFT for a JPG produced by digital artist Beeple sold for \$69.3 million in March 2021.⁵ That same month, Jack Dorsey, the former CEO of Twitter, sold an NFT of his first tweet ever for a whopping \$2.9 million,⁶ and a *New York Times* reporter sold an NFT related to a news story (on NFTs!) for \$560,000.⁷ Indeed, these sales prices in the millions have continued into 2022.⁸ So while the idea of NFTs has existed since

² See *Tokenize*, DECRYPTIONARY (Oct. 9, 2017), <https://decryptionary.com/glossary/tokenize/> [<https://perma.cc/PC9B-GLHN>] (“A token is a digital representation of an asset that exists on the blockchain.”); see also *Asset Tokenization: Bringing Real-World Value to the Blockchain*, CHAINLINK (Oct. 7, 2020), <https://blog.chain.link/asset-tokenization-bringing-real-world-value-to-the-blockchain/> [<https://perma.cc/FR7P-M69Z>] (characterizing tokenization as “preserving the liquidity premium because the tokens are still tied to a unique asset”); Carlos Alonso Torras, *The Untold Story of the NFT Boom*, FINTECH COLLECTIVE (May 14, 2021), <https://news.fintech.io/post/102gy40/the-untold-story-of-the-nft-boom> [<https://perma.cc/VDS5-YA7C>].

³ See generally Jamie Redman, *30 Day NFT Sales Continue to Run Hot with Punks and Apes, Metaverse Trade Volume Skyrockets*, BITCOIN.COM (Dec. 24, 2021), <https://news.bitcoin.com/30-day-nft-sales-continue-to-run-hot-with-punks-and-apes-metaverse-trade-volume-skyrockets/> [<https://perma.cc/P4EM-2MJY>] (explaining that there has been a consistent rise in NFT sales).

⁴ Renuka Tahelyani, *Top 11 Most Expensive Bored Ape Yacht Club NFTs*, CRYPTO TIMES (Mar. 30, 2022, 6:02 PM), www.cryptotimes.io/most-expensive-bored-ape-yacht-club-nfts/ [<https://perma.cc/C2G2-RW7H>].

⁵ Scott Reyburn, *JPG File Sells for \$69 Million, as ‘NFT Mania’ Gathers Pace*, N.Y. TIMES (Mar. 25, 2021), www.nytimes.com/2021/03/11/arts/design/nft-auction-christies-beeple.html [<https://perma.cc/DPB8-SYUK>].

⁶ Elizabeth Howcroft, *Twitter Boss Jack Dorsey’s First Tweet Sold for \$2.9 Million as an NFT*, REUTERS (Mar. 22, 2021, 10:50 AM), www.reuters.com/article/us-twitter-dorsey-nft/twitter-boss-jack-dorseys-first-tweet-sold-for-2-9-million-as-an-nft-idUSKBN2BE2KJ [<https://perma.cc/G2ME-ET5S>].

⁷ Clive Thompson, *The Untold Story of the NFT Boom*, N.Y. TIMES MAG. (May 12, 2021), www.nytimes.com/2021/05/12/magazine/nft-art-crypto.html [<https://perma.cc/Z45S-S6QB>]; see also Kevin Roose, *Buy This Column on the Blockchain!*, N.Y. TIMES (Mar. 24, 2021), www.nytimes.com/2021/03/24/technology/nft-column-blockchain.html [<https://perma.cc/6D3S-X75X>] (demonstrating the potential of NFTs by inviting readers to bid on an NFT corresponding to the cited column).

⁸ Langston Thomas, *The 20 Most Expensive NFT Sales of All Time*, NFT NOW (Feb. 21, 2023), <https://nftnow.com/features/most-expensive-nft-sales/#assange-pak-clock> [<https://perma.cc/V38H-SCNH>].

the mid-2010s,⁹ the market only caught fire in 2021 and has continued into the early part of 2022.¹⁰

There has also been quite a bit of forward-looking excitement around the potential uses of NFTs. Millionaire Mark Cuban said that anything digital can be an NFT and opined that the NBA Mavericks, which he owns, could use NFTs to “sell virtual Mavs gear, sneakers, art, pictures, videos, experiences, anything our imagination can come up with we can sell.”¹¹ There is even a move to tokenize real world assets.¹² Mainstream corporate giants such as BNY Mellon¹³ and Deloitte¹⁴ have concluded that tokenization has the potential to “disrupt” everything from securities trading¹⁵ to real estate markets.¹⁶ Sotheby’s, Vanguard, and Microsoft all have NFT projects

⁹ Josie Thaddeus-Johns, *What Are NFTs, Anyway? One Just Sold for \$69 Million*, N.Y. TIMES (Mar. 11, 2021), www.nytimes.com/2021/03/11/arts/design/what-is-an-nft.html [https://perma.cc/C3NY-G2X5].

¹⁰ *Id.*; Anthony Clarke, *What Remains in the NFT Market Now That the Dust Has Settled?*, COINTELEGRAPH (Oct. 3, 2022), <https://cointelegraph.com/news/what-remains-in-the-nft-market-now-that-the-dust-has-settled> [https://perma.cc/Z5EY-N256].

¹¹ Cathy Hackl, *Five Things Brands Need to Know about NFTs (Non-Fungible Tokens)*, FORBES (Mar. 4, 2021, 8:13 PM EST), www.forbes.com/sites/cathyhackl/2021/03/04/four-things-brands-need-to-know-about-nfts-non-fungible-tokens/?sh=5f86139e222f [https://perma.cc/D82L-CPZE].

¹² Bridget van Kralingen, Jesse Lund & Shanker Ramamurthy, *The Digitization of Real-World Assets into Tokens on Blockchain*, IBM INST. FOR BUS. VALUE (Apr. 30, 2018), www.ibm.com/thought-leadership/institute-business-value/report/tokenassets [https://perma.cc/UU8P-63JZ].

¹³ Katy Burne, *Tokens of Appreciation? The Benefits of Digitizing Assets Using Blockchain*, BNY MELLON: AERIAL VIEW MAG. (Feb. 2020), www.bnymellon.com/us/en/insights/aerial-view-magazine/tokens-of-appreciation.html [https://perma.cc/6N7M-BXL7]; *Tokenization: Opening Illiquid Assets to Investors*, BNY MELLON INSIGHTS (June 2019), www.bnymellon.com/emea/en/insights/all-insights/tokenization-opening-illiquid-assets-to-investors.html [https://perma.cc/zH5M-EQEN].

¹⁴ Patrick Laurent, Sébastien Genco & Allison Izard, *The Tokenization of Assets Is Disrupting the Financial Industry. Are You Ready?*, DELOITTE: INSIDE MAG., Oct. 2018, at 62, www2.deloitte.com/content/dam/Deloitte/cz/Documents/financial-services/Deloitte_Inside_19_CIO_Edition_Nov_2018.pdf [https://perma.cc/D37Q-PT4R] (“From art to buildings, the way we invest in assets could be about to fundamentally change with the arrival of tokenization. The act of tokenizing assets threatens to disrupt many industries, in particular the financial industry, and those who are not prepared risk being left behind.”).

¹⁵ Damaris Teacherprenuer, *Tokenizing the Future: How NFTs Could Revolutionize Stocks and Property Ownership*, MEDIUM (Apr. 19, 2023), <https://damarisentrepreneurayala.medium.com/tokenizing-the-future-how-nfts-could-revolutionize-stocks-and-property-ownership-6af80b18f89> [https://perma.cc/ND7Q-R4YH].

¹⁶ We take note of one so-called innovation in using NFTs to tokenize real estate by the Silicon Valley firm Propy. The CEO of Propy argued in *Forbes* that buying real estate is a “costly and lengthy, drawn-out process ... with its reliance on outdated methods of transacting business and multiple middlemen.” Natalia Karayaneva, *Real Estate NFTs: How It Began*, FORBES (Nov. 24, 2021), www.forbes.com/sites/nataliakarayaneva/2021/11/24/real-estate-nfts-how-it-began/?sh=2f3dec4c3b12 [https://perma.cc/XD26-EA65]. To address these problems using NFTs, Propy acquires real estate and then transfers it to some kind of entity, like a trust or LLC. *Id.* Then, an NFT is created that supposedly represents ownership of the entity. *Id.* The NFT is auctioned off and the owner of the NFT becomes the owner of the property. *Id.* Propy says that the auction winner was “thrilled” because of how quick and easy the process was. *Id.* But, when one digs a little deeper, it is not clear where the savings really occur. Any serious buyer of real estate will still need to conduct a title search to ensure the purported seller actually has title to the property. Also, a buyer will typically want to conduct a physical inspection of the property. And of course, most home buyers need time to apply for a mortgage, which entails an

in the works for industrial assets, real estate, and securities transactions.¹⁷ The financial giant State Street announced in the summer of 2021 its plan to move “hundreds of its staff” members to a new unit specializing in, among other things, “support for ‘tokenized’ assets.”¹⁸

The idea behind the tokenization of a tangible or intangible asset is that the owner of the asset creates a digital item (essentially, an entry in a blockchain ledger) identifiable with the asset itself. The creation of this digital entry is called *minting*, and, as the foregoing suggests, the entry itself is called a *token*.¹⁹ After its minting, the token is sold, often through an auction facilitated by the same online platform that performed the minting service, to willing buyers.²⁰ Typically, buyers pay using some form of cryptocurrency – Ethereum’s ether being particularly popular.²¹ The purchaser of the token then ostensibly also owns the underlying asset, or at least that is the whole idea behind tokenization: that the owner of the token acquires authentic title to the reference asset.²²

Commentators note that tokenization has tremendous potential to change everyday transactions. They note that tokens can easily “be traded on a secondary market of the issuer’s choice.”²³ That transactions involving tokens happen on the

appraisal of the property. All of these components of the buying process require time, money, and middlemen, and they are not impacted, much less diminished, by the fact that there is an NFT. Not to mention, any reasonable buyer of this NFT would want, or at least should want, to see the governing documents of the entity that holds title to the property to ensure that the owner of the NFT will actually be deemed the owner of the business entity as well, and not just take some NFT platform’s (or seller’s) word for it.

¹⁷ J. D. Alois, *Smartlands and Sotheby’s Partner on Tokenized Real Estate Offering in the UK*, CROWDFUND INSIDER (Dec. 20, 2019, 11:59 AM), www.crowdfundinsider.com/2019/12/155457-smartlands-and-sothebys-partner-on-tokenized-real-estate-offering-in-the-uk/ [<https://perma.cc/M2VB-T4TD>]; Paddy Baker, *Microsoft Partners with Waves Enterprise to Tokenize Industrial Assets*, COINDESK (Sept. 14, 2021, 2:31 AM PDT), www.coindesk.com/microsoft-partners-waves-tokenize-industrial-assets/ [<https://perma.cc/24X9-XFX8>]; Brian Croce, *Vanguard Concludes First Phase of Blockchain Pilot*, PENSIONS & INVS. (June 11, 2020, 1:44 PM), www.pionline.com/money-management/vanguard-concludes-first-phase-blockchain-pilot [<https://perma.cc/AAJ8-RXM4>].

¹⁸ Chris Anstey, *You Can Tokenize a Building’ in State Street’s New Digital Push*, BLOOMBERG (June 11, 2021, 11:42 AM), www.bloomberg.com/news/articles/2021-06-11-you-can-tokenize-a-building-in-state-street-s-new-digital-push [<https://perma.cc/6XK5-NT9H>]; Juliet M. Moringiello & Christopher K. Odinet, *Blockchain Real Estate and NFTs*, 64 WM. & MARY L. REV. 1131 (2023).

¹⁹ See Roose, *supra* note 7 (describing his experience minting a token).

²⁰ E.g., Thompson, *supra* note 7.

²¹ Ollie Leech, *How to Make, Buy and Sell NFTs*, COINDESK (Jan. 5, 2022), www.coindesk.com/how-to-create-buy-sell-nfts [<https://perma.cc/3PSP-JVRT>].

²² See Laurent et al., *supra* note 14, at 63; Burne, *supra* note 13 (“Here’s how tokenization works: the digital token references someone’s right to property or delivery of an asset.”); see also Lily Tijoe, *Credit Derivatives: Regulatory Challenges in an Exploding Industry*, 26 ANN. REV. BANKING L. 387, 389 (2007) (defining and giving examples of reference assets).

²³ Laurent et al., *supra* note 14, at 63; see also Burne, *supra* note 13 (“[T]he digital token references someone’s right to property or delivery of an asset.”); see also *Non-Fungible Tokens (NFT)*, ETHEREUM, <https://ethereum.org/en/nft/> (last updated July 25, 2022) [<https://perma.cc/QKQ2-U57Y>] (“NFTs are tokens that we can use to represent ownership of unique items. They let us tokenise things like art, collectibles, even real estate.”).

blockchain and through smart contracts,²⁴ promoters proclaim, means that there are few “administrative burden[s] involved in buying and selling,” which, in turn, leads “to not only faster deal execution, but also lower transaction fees.”²⁵

But what is most interesting for purposes of this chapter are the developments surrounding tokens and property rights. Crypto-enthusiasts proclaim that NFTs are the “future of digital property.”²⁶ Tokens herald a day when “government will lose its unique power to mint currency and protect property.”²⁷ Self-proclaimed experts on YouTube state that tokens convey ownership,²⁸ constitute “intellectual property,”²⁹ and contain “historical ownership data” related to an underlying thing.³⁰ And while the assertions of social media influencers with no particular expertise may not seem noteworthy on the surface, their observations are, in practice, quite important. A recent study by LendingTree’s MagnifyMoney unit revealed that 41 percent of Gen Z investors and 15 percent of Millennials sought financial and investment advice from personalities on the social media platform TikTok.³¹ Even some lawyers claim that “nonfungible tokens can be used to represent ownership of all sorts of original digital items.”³²

More concretely, industry proponents assert that tokenization does not only add “transparency to transactions,” but also allows for the holder’s “rights and legal responsibilities [to be] embedded directly onto the token” alongside “an immutable record of ownership.”³³ In that vein, the promise includes the notion that because tokens are “highly divisible” and have a direct connection to ownership of a tethered thing, individuals can purchase fractional interests in an underlying asset,³⁴ the entirety of which they may not be able to afford.³⁵ In this way, tokenization is said to open up investment opportunities, democratizing finance.³⁶

²⁴ Burne, *supra* note 13; Ephrat Livni, *For Rules in Technology, the Challenge Is to Balance Code and Law*, N.Y. TIMES (Nov. 23, 2021), www.nytimes.com/2021/11/23/business/dealbook/cryptocurrency-code-law-technology.html [<https://perma.cc/83WL-4FCG>].

²⁵ Laurent et al., *supra* note 14, at 63.

²⁶ Thompson, *supra* note 7.

²⁷ *Id.*

²⁸ See Johnny Harris, *NFTs, Explained*, YOUTUBE, at 0:55 (Apr. 27, 2021), www.youtube.com/watch?v=Ozqzw7-vhM [<https://perma.cc/2NV4-PANZ>].

²⁹ Rhett/Mankind, *What Is an NFT? (Crypto Beginners)*, YOUTUBE, at 1:30 (Oct. 12, 2020), www.youtube.com/watch?v=a8ww4aNIPQU [<https://perma.cc/738L-SNEF>].

³⁰ Marko – WhiteBoard Finance, *What Are NFTs and How Do They Work?*, YOUTUBE, at 2:53 (Mar. 6, 2021), www.youtube.com/watch?v=LU5Mv4TQEE8 [<https://perma.cc/RU4L-LZVG>].

³¹ See Cheryl Winokur Munk, *TikTok Is the Place to Go for Financial Advice if You’re a Young Adult*, WALL ST. J. (May 2, 2021, 12:00 PM EST), www.wsj.com/articles/tiktok-financial-advice-11619822409 [<https://perma.cc/686L-H7BS>].

³² Richard Acello, *Big Money: Nonfungible Tokens Are All the Rage Now. What Are They, and What Should Buyers Watch For?*, 107 A.B.A. J. 25, 25 (2021).

³³ Laurent et al., *supra* note 14, at 63.

³⁴ *Id.*; see also Aurore Geraud, *Tech vs. Tech: Real Estate NFTs vs. Real Estate Tokenisation*, L’ATELIER BNP PARIBAS (July 1, 2022), <https://atelier.net/insights/tech-real-estate-nfts-tokenisation> [<https://perma.cc/555J-JWE8W>].

³⁵ Laurent et al., *supra* note 14, at 2.

³⁶ See Burne, *supra* note 13 (promising that tokenization makes the underlying asset “more liquid”).

Due to the tokenization craze,³⁷ the significant funds being deployed to support the NFT market,³⁸ and the many assertions (from a variety of directions) about what rights a token holder actually acquires in the underlying thing,³⁹ it is inevitable that issues about tokenization and property rights will end up before courts.⁴⁰ With this prospect, this chapter endeavors to take a more sober look at the tokenization phenomenon and, in doing so, to describe what exactly it means for property rights. What can a purchaser of a token expect? How is a token connected (or, as we say, *tethered*) to the underlying asset, if at all? What does the law – not the hype – have to say about it? These are the issues this chapter explores. This chapter also discusses how the recent revisions to the Uniform Commercial Code, which the American Law Institute and Uniform Law Commission promulgated in 2022⁴¹ to address emerged and emerging technologies, will impact NFT transactions.

1.1 TOKENIZATION IN THE LAW

Before one can understand what NFTs are – in other words, what these contemporary tokenizations are really doing – one must understand tokenization as a legal

³⁷ See David Rothman, *Cashing in on the NFT Craze*, CBS NEWS (July 11, 2021, 9:55 AM), www.cbsnews.com/news/the-nft-craze-non-fungible-tokens/ [https://perma.cc/J6EC-648E].

³⁸ Erin Griffith, *From Crypto Art to Trading Cards, Investment Manias Abound*, N.Y. TIMES (Mar. 13, 2021), www.nytimes.com/2021/03/13/technology/crypto-art-NFTs-trading-cards-investment-manias.html [https://perma.cc/Q4BW-ZYLN] (“Even as millions were laid off in the pandemic, many people’s bank accounts flourished, flush from stimulus checks and government cash infusions into the economy. But while people accumulated more money, traditional investments like stocks and bonds became less attractive.”).

³⁹ See, e.g., *About KnownOrigin*, KNOWNORIGIN (Feb. 8, 2021), <https://knownorigin.io/journal/platformupdate/how-to-template> [https://perma.cc/4HQB-QKDT] (stating that its tokens provide “an immutable, trustworthy and reliable source of ownership”); Devin Finzer, *The Non-Fungible Token Bible: Everything You Need to Know about NFTs*, OPENSEA (Jan. 10, 2020), <https://opensea.io/blog/guides/non-fungible-tokens/> [https://perma.cc/R766-PCVN] (“Non-fungible tokens (NFTs) are unique, digital items with blockchain-managed ownership. Examples include collectibles, game items, digital art, event tickets, domain names, and even ownership records for physical assets.”); see also *Frequently Asked Questions*, MAKERSPLACE <https://makersplace.com/faq/> [https://perma.cc/Y6ME-J4ET]; *NFTs Are Transforming the Digital Art World*, FOUND. (Oct. 13, 2020), <https://foundation.app/blog/nfts-are-transforming-the-digital-art-world> [https://perma.cc/27FP-TYZ7]; Zach of Mintable, *Mintable Is Live! Create a Digital Item in Seconds. Manage All Your ERC-721s in One Place – and Sell Your Newly Minted Items for Profit*, MEDIUM (Apr. 15, 2019), <https://mintable.medium.com/mintable-is-live-7d022b1aa28> [https://perma.cc/M64Y-EQDL].

⁴⁰ Association of American Law Schools, *Webinar Replay: The Art of NFTs*, YOUTUBE, at 9:30–10:32, 14:05–15:47 (June 28, 2021), www.youtube.com/watch?v=lQMyS5HCvNM [https://perma.cc/HY6E-5FS6] (quoting crypto- and NFT-industry lawyers Emilio Cazares, Chief Legal Officer for the crypto company SuperRare, and Pamela M. Deese, a partner with the law firm of ArentFox Schiff); *The Art of NFTs*, ASS’N AM. L. SCHS. (June 25, 2021), www.aals.org/sections/list/art-law/the-art-of-nfts/ [https://perma.cc/5AJW-C4T8]; see also Andrew R. Chow, *The Quentin Tarantino-Miramax Dispute Isn’t the First Lawsuit Over NFTs – And It Won’t Be the Last*, TIME (Nov. 17, 2021, 4:14 PM EST), <https://time.com/6120878/tarantino-nft-lawsuit/> [https://perma.cc/W23J-ND6Z].

⁴¹ See AM. L. INST. & UNIF. L. COMM’N, A SUMMARY OF THE 2022 AMENDMENTS TO THE UNIFORM COMMERCIAL CODE 2 (2022), www.ndlegis.gov/files/committees/67-2021/23_9335_01000appendixb.pdf [https://perma.cc/6EYY-KFSR] [hereinafter “SUMMARY OF AMENDMENTS”].

concept. Having a background in how the law conceptualizes tokenizing something, in turn, helps to see what NFTs can and cannot be under existing property law and related frameworks.

There is already law around the idea of tokenization.⁴² While not always referred to by this name, doctrinal tokenization has been happening for many centuries. Specifically, legal concepts have developed to recognize that a single thing can be configured to represent rights, such as property rights, in something else. The following furnishes the bedrock examples of doctrinal tokenization: the law of negotiable instruments, the law of securities, the law of deeds, and the law of bills of lading. These examples illustrate bodies of law that recognize the fact that possession or control of one thing, usually a piece of paper, may convey certain exclusive or relative rights in something else, which may be either an intangible right or a tangible asset.

1.1.1 *Negotiable Instruments*

Negotiable instruments law is first because it is perhaps the most famous example of tokenization. This body of law provides that pieces of paper that satisfy listed requirements as to form⁴³ confer different rights from those conferred by an ordinary contract written on paper. The paper not only evidences a debt owed, but also an easily transferrable and highly liquid debt.⁴⁴ Article 3 of the Uniform Commercial Code (UCC) reifies payment rights in such paper, providing that a person who possesses the paper has the right to enforce the payment right evidenced by that instrument.⁴⁵

As with all tokenized property, the tokenization of debts in negotiable instruments satisfied a commercial need. The idea of using a tangible item of little worth to represent monetary value dates to ancient times. Importantly, this representation solved a practical problem. Ancient coins were heavy, and it was not safe to transport large amounts of them, so traders accepted skins, leather, silks, and other textiles as currency.⁴⁶

Negotiable bills of exchange, the precursors to today's checks, emerged in the fourteenth century.⁴⁷ The early bill of exchange was a letter addressed from one

⁴² See *Token*, BLACK'S LAW DICTIONARY (11th ed. 2019) (A token is "tangible evidence of the existence of a fact.").

⁴³ See U.C.C. § 3-104 (AM. L. INST. & UNIF. L. COMM'N 2018) (providing form requirements).

⁴⁴ See FREDERICK H. MILLER & ALVIN C. HARRELL, *THE LAW OF MODERN PAYMENT SYSTEMS AND NOTES* ¶ 1.3[1][a] (West Academic 2d ed. 2017) (explaining that a holder of a negotiable instrument need only produce an instrument in order to be paid on it).

⁴⁵ U.C.C. § 3-301 (AM. L. INST. & UNIF. L. COMM'N 2018); see also James Steven Rogers, *Negotiability as a System of Title Recognition*, 48 OHIO ST. L.J. 197, 200 (1987) (explaining that the "liabilities of the parties to negotiable instruments are 'reified' in the pieces of paper, that is, the writings become the indispensable embodiments of the liabilities of the parties").

⁴⁶ See Frederick Read, *The Origin, Early History, and Later Development of Bills of Exchange and Certain Other Negotiable Instruments*, 4 CANADIAN BAR REV. 440, 440 (1926) (explaining the use of representative money in China and Carthage).

⁴⁷ W.S. Holdsworth, *Origins and Early History of Negotiable Instruments II*, 31 L.Q. REV. 173, 173 (1915).

party to another directing the addressee to pay a third person a sum of money.⁴⁸ These instruments addressed a problem created by counterfeiting. To lessen the reach of counterfeiting, some countries, such as England, limited the exportation of their currency.⁴⁹ The need to assign debts as payment was particularly acute in commercial transactions involving parties from such countries. In countries such as England, the negotiable bill of exchange thus facilitated trade transactions that crossed national borders.⁵⁰

The industrial revolution served as the catalyst for developing the negotiable instrument principles that remain in effect today. The money supply at the time was insufficient to allow for cash payments in the growing number of commercial transactions spawned by industrialization.⁵¹ As a result, parties in commerce invented their own paper currency substitute based on the bill of exchange.⁵² This money substitute came in the form of a draft in which the seller would order a buyer to pay a specified sum of money to a third person.⁵³ This paper, which could pass from hand to hand to pay such debts, supplemented the inadequate money supply.⁵⁴

The large-scale problem that had to be solved to give instruments value as money substitutes was *assignability*.⁵⁵ Ancient systems of law did not allow one person to represent another before a tribunal, nor did they allow creditors to assign their rights against their debtor to another person.⁵⁶ Since these creditor rights (called choses in action⁵⁷) were not assignable at common law, the primary goal of early English negotiable instruments law may have been to make debts assignable.⁵⁸ The law's development of a method of assignment, which ensured the right to payment to any person presenting the instrument for payment, supports this notion.⁵⁹

⁴⁸ *Id.*

⁴⁹ See Read, *supra* note 46, at 447 (explaining legislation prohibiting exportation of “coin of the realm” enacted to thwart the use of counterfeit coin in trade).

⁵⁰ See W.S. Holdsworth, *Origins and Early History of Negotiable Instruments I*, 31 L.Q. REV. 12, 13, 29 (1915) (discussing bills of exchange as a method of “effecting an exchange of money without incurring the risks of its physical transportation”).

⁵¹ See Grant Gilmore, *Formalism and the Law of Negotiable Instruments*, 13 CREIGHTON L. REV. 441, 447 (1979) (observing that the “idea that the payments could be made in metallic currency, chronically in short supply, was ludicrous”).

⁵² *Id.*

⁵³ *Id.*

⁵⁴ See MILLER & HARRELL, *supra* note 44, ¶ 2.1[1] (noting that paper was used to supplement the money supply).

⁵⁵ *Assignment* is being used to mean the transfer of property rights from one person to another. See *Assignment*, BLACK'S LAW DICTIONARY (11th ed. 2019) (citing ALEXANDER M. BURRILL, A TREATISE ON THE LAW AND PRACTICE OF VOLUNTARY ASSIGNMENTS FOR THE BENEFIT OF CREDITORS § 1, at 1 (James Avery Webb ed., 6th ed. 1894)).

⁵⁶ Holdsworth, *supra* note 47, at 13.

⁵⁷ A “chose in action” in this context is the right to bring an action against someone else for the recovery of a debt. See *Chose*, BLACK'S LAW DICTIONARY (11th ed. 2019).

⁵⁸ Rogers, *supra* note 45, at 199.

⁵⁹ *Id.* at 199–200.

To substitute for currency, the paper had to satisfy a number of requirements that now form the basis of negotiable instrument law. In passing from person to person in a worldwide market, these instruments ended up in the possession of a person who had no knowledge of the transaction that created the instrument.⁶⁰ The negotiable instrument principles that endure today ensure that the ultimate holder, the one who wants to exchange the instrument for government-backed money, will receive a sum ascertainable from the face of the instrument.

For paper to serve as a medium of exchange, it must be easy to determine the value of that paper. The paper itself would not be acceptable as payment if its value was not easily ascertainable.⁶¹ The paper payment devices developed over the centuries could not effectively serve as payment for goods and services without meeting what we now recognize as the requisites of negotiability.⁶² To qualify as a negotiable instrument in American law today, the paper must show that the right to payment is unconditional, for a fixed amount, due on demand or at a definite time, and payable either to the bearer or to a named person.⁶³

After resolving the assignment problem, determining priority between obligees became important. Since a right to payment is intangible, the law had to develop a way to determine who had the prior right to payment if the obligee assigned the payment right twice (the double-dealing problem). Tokenization, or reification,⁶⁴ solved this problem. Once the payment right was reified in the paper, the person holding the token, in this case the paper, had a better right to payment than anyone else.⁶⁵

An important concept of negotiable instrument law is holder in due course status. When a person takes a negotiable instrument for value, in good faith, and without notice of any forgery or claims to the instrument, that person takes the instrument free of any defenses of the person obligated to pay the instrument.⁶⁶ This status gives value to the token; a person can buy a payment right and know the value of that right by looking at the token instrument.

1.1.2 Securities

The tokenization of securities also has a long history, and, like negotiable instruments, developed to address a particular economic problem. This form of tokenization dates

⁶⁰ Gilmore, *supra* note 51, at 448.

⁶¹ See MILLER & HARRELL, *supra* note 43, § 2.1[1]. (“The acceptability of a commodity, whether it is gold or a negotiable instrument, is determined in significant measure by the ease of ascertaining whether it is the ‘real thing.’”).

⁶² See Rogers, *supra* note 45, at 200.

⁶³ U.C.C. § 3-104 (AM. L. INST. & UNIF. L. COMM’N 2018).

⁶⁴ The legal concept of reification stands for the idea that the rights a paper certificate references “are incorporated into the paper itself.” See FINANCIAL COLLATERAL (Matthias Haentjens ed., Oxford University Press 2020); see also Rogers, *supra* note 45, at 222.

⁶⁵ *Id.* at 200.

⁶⁶ U.C.C. §§ 3-302, 3-305 (AM. L. INST. & UNIF. L. COMM’N 2018).

back to the small, but often very wealthy, city-states of the Italian peninsula and other nearby commercial centers in the 1100s and 1200s.⁶⁷ For example, the French *Société des Moulins de Bazacle*, a mill system association in Toulouse owned by the citizens of the town, issued shares in the form of certificates.⁶⁸ Those certificates indicated on their face that the bearer of the certificate held the share rights in the association; in other words, whoever possessed the certificate had the rights of an association member and could participate in mill decision-making.⁶⁹ The certificate was a kind of token for rights in the association. Then, in the early 1600s, the Dutch East India Company issued, for supposedly the first time ever, true equity shares to the public.⁷⁰ The shares did not come in the form of actual certificates like the *Bazacle* shares,⁷¹ but the use of certificate-like receipts called “deeds of bargain and sale” – used in connection with the company’s official share ledger – became integral in facilitating the exchange of Dutch East India Company shares.⁷² The buyer would pay for the shares and the seller would furnish a deed of bargain and sale.⁷³ The buyer would then bring the deed to the company’s corporate office and have the transfer formally consummated.⁷⁴

In the late 1800s, commercial parties recognized the need for legal reform in securities law and set about bringing corporate tokenization into effect.⁷⁵ To facilitate numerous and quick transactions involving the transfer of corporate stock, the legal rules changed so that it was no longer necessary to bring a certificate to the corporation’s office and have the owner’s name changed in the official records.⁷⁶ Instead, there would be true *tokenization* – reification to a degree that would provide easy assignability of the security from one party to another.⁷⁷ Thus, only the

⁶⁷ FINANCIAL COLLATERAL, *supra* note 64, at 13. During that period, there was a vibrant market for the buying and selling of bonds (debt instruments) in the form of certificates. *See id.*

⁶⁸ Max Nisen, *The Fascinating 600-Year History of a French Mill, the World’s Oldest Shareholding Company*, YALE INT’L CTR. FIN. (August 19, 2014), <https://som.yale.edu/news/2014/08/the-fascinating-600-year-history-of-french-mill-the-world-s-oldest-shareholding-company> [<https://perma.cc/P9JX-L82R>]. To view one of the share certificates, see *The PW Collection*, PROF. WEALTH, www.professionalwealth.com.au/education/collection/ (last visited February 24, 2023) [<https://perma.cc/5QZV-QGMH>].

⁶⁹ *See id.* (showing an example of one of the certificates).

⁷⁰ *See* Henry Hansmann & Mariana Pargendler, *The Evolution of Shareholder Voting Rights: Separation of Ownership and Consumption*, 123 YALE L.J. 948, 1002 (2014).

⁷¹ Lodewijk Petram, *The Oldest Share*, WORLD’S FIRST STOCK EXCH. (November 2, 2020), www.worldsfirststockexchange.com/2020/11/02/the-oldest-share/ [<https://perma.cc/5RZ5-G4RY>]; John P. Shelton, *The First Printed Share Certificate: An Important Link in Financial History*, 39 BUS. HIST. REV. 391, 397–99 (1965).

⁷² *See* Shelton, *supra* note 71, at 393, 400–01 (noting that these receipts played a “vital role in the transactions” even though the parties had to nevertheless go to the company’s official office).

⁷³ *See id.* at 392–94 (implying that to effectuate the transfer, the buyer would pay for the shares and the seller would provide the deed of bargain and sale).

⁷⁴ *See id.*

⁷⁵ *See* FINANCIAL COLLATERAL, *supra* note 64, at 14.

⁷⁶ *See* Shelton, *supra* note 71, at 392–93.

⁷⁷ *See* FINANCIAL COLLATERAL, *supra* note 64, at 14.

holder of the certificate held the relevant rights in the referenced thing – in this case, the corporation – and that holder could easily transfer the token and thereby effect a transfer of the corporate rights.⁷⁸

Today, the UCC again provides the framework for these tokenized securities – known as certificated securities, namely stock and bonds evidenced by a piece of paper.⁷⁹ The law allows for denominating such certificated securities as either bearer securities or registered securities.⁸⁰ If in bearer form,⁸¹ then the person who “acquires possession”⁸² of the certificate acquires the rights in the security.⁸³ If in registered form, then the certificate will indicate its holder’s name.⁸⁴ To transfer the rights in it to another person, the certificate must be indorsed (typically signed) by the holder and then delivered into the possession of the new holder.⁸⁵ Regardless of its form, the certificated security remains a tangible *token*. Becoming the holder of the physical token gives the person rights to the underlying asset: the security. Tokenization solved the problem of high-volume assignability. Tokens could pass from hand to hand and the corporate rights followed.

Until the second half of the twentieth century, securities remained in certificated form.⁸⁶ Eventually, however, the continued and widespread use of paper, or paper tokens, went out of vogue. It became extremely cumbersome and inefficient to actually deliver the certificates to many individuals at great distances throughout a trading day.⁸⁷ In fact, the late 1960s and 1970s saw a so-called paperwork crisis that necessitated shortening trading days to give time for trading staff to catch up; transfer and recording errors abounded during this period.⁸⁸ The answer was for the law to also allow for the creation of *intangible* tokens, now known in the Uniform Commercial Code as uncertificated securities.⁸⁹

Transfers of such tokens occur by having the name of the owner changed in the official records of the company, rather than by a change in physical possession.⁹⁰ In essence, this dynamic created a precursor to digital possession, which is largely

⁷⁸ *Id.* For a general discussion of the theorizing of shareholder rights as either property rights or contract rights, see Robert Anderson IV, *A Property Theory of Corporate Law*, 2020 COLUM. BUS. L. REV. 1 (2020).

⁷⁹ U.C.C. § 8–102(a)(4) (AM. L. INST. & UNIF. L. COMM’N 2018).

⁸⁰ *Id.* § 8–102(a)(2), (a)(13).

⁸¹ *Id.* § 8–102(a)(2).

⁸² *Id.* § 8–301(a)(1).

⁸³ *Id.* § 8–104(a)(1).

⁸⁴ *Id.* § 8–102(a)(13)(i).

⁸⁵ *Id.* § 8–102(a); *id.* § 8–401; *id.* § 8–501.

⁸⁶ See Martin J. Aronstein, *The Decline and Fall of the Stock Certificate in America*, 1 J. COMPAR. CORP. L. SEC. REGUL. 273, 273 (1978) (explaining that the reform of the paper certificate began in the 1960s and 1970s).

⁸⁷ FINANCIAL COLLATERAL, *supra* note 64, at 52.

⁸⁸ *Id.*; *In re Appraisal of Dell Inc.*, No. 9322, 2015 WL 4313206, at *1 (Del. Ch. July 30, 2015) (discussing the paperwork crisis).

⁸⁹ U.C.C. § 8–102(a)(18) (AM. L. INST. & UNIF. L. COMM’N 2018).

⁹⁰ *Id.* § 8–301(b)(2).

referred to as *control*. Rather than possessing the token (and thereby acquiring referenced rights), one would control the token by having it associated with them in an official ledger.⁹¹ The controller of the token acquired the legal rights in it. Having the legal rights in the token gave the holder rights in the corporation.

Control over securities developed even more in the second half of the twentieth century with the indirect holding of these tokens.⁹² In 1973, the Depository Trust Company came into existence to accept deposits of certificated securities issued by publicly traded companies.⁹³ Although designated as the owner of the securities, this depository company merely held them for others – specifically, on behalf of other intermediary parties (such as banks and broker-dealer firms).⁹⁴ In turn, individual investors had so-called brokerage accounts with these one-step-removed intermediaries, such as Charles Schwab, Vanguard, and the like.⁹⁵ The UCC, through Article 8's rules on *securities entitlements*, memorializes this ownership concept,⁹⁶ which dominates public securities trading to this day.⁹⁷

In sum, despite the desire to move away from tangible tokens, there remained a need to maintain the token itself as an authoritative object, even if rights in it could be acquired through new, indirect means. The holder of the securities entitlement – a token itself – holds the rights in the shares of the corporation – yet another token – and, in turn, has rights in the corporation – the underlying thing. Although holding the token evolved so that it now includes control of an intangible thing, the existence and continued recognition of tokens persist in securities law because they still serve a useful economic purpose.

1.1.3 *Deeds of Real Property*

Deeds of real property provide yet another instance of tokenization under the law. In Anglo-American law, the transfer of an interest in real property could happen

⁹¹ *Id.* § 8–301 cmt. 3.

⁹² See RICHARD D. FREER & DOUGLAS K. MOLL, *PRINCIPLES OF BUSINESS ORGANIZATIONS* 415 (West Academic 2d ed. 2018) (explaining the “book entry” or “street name” system that developed starting in the 1960s).

⁹³ *About DTCC*, DEPOSITORY TR. CO., www.dtcc.com/about/businesses-and-subsidiaries/dtc (last visited February 24, 2023) [<https://perma.cc/NAL2-4PPB>].

⁹⁴ Issuer Restrictions or Prohibitions on Ownership by Securities Intermediaries, 69 Fed. Reg. 70,852, 70,853 (December 7, 2004) (codified at 17 C.F.R. pt. 240).

⁹⁵ See JEFFREY J. HAAS, *CORPORATE FINANCE* 326–27 (West Academic 2d ed. 2020) (stating that stockholders beneficially own shares through a brokerage account).

⁹⁶ To wit, the concept of having ultimate beneficial ownership of a token through the indirect holding of that token via an account with a securities broker.

⁹⁷ U.C.C. § 8–102(a)(17) (AM. L. INST. & UNIF. L. COMM’N 2018) (“Security entitlement” means the rights and property interest of an entitlement holder with respect to a financial asset specified in Part 5.”). A *financial asset* includes “a security” or “any property that is held by a securities intermediary for another person in a securities account if the securities intermediary has expressly agreed with the other person that the property is to be treated as a financial asset under this Article.” *Id.* § (a)(9);

without a writing through a ceremony-laden process known as *feoffment with livery of seisin*.⁹⁸ This transfer took place, as first year property law students know all too well, through the formal delivery of possession of the land from the grantor to the grantee.⁹⁹ The grantor at the ceremony needed only say as little as “I enfeof thee and thy heirs forever of black acre” to consummate the transaction.¹⁰⁰

Over time, however, there was a recognition that these transactions needed evidence of their occurrence. English courts generally suffered from a certain level of deception in their proceedings, with perjury and the use of so-called professional witnesses (individuals who hung around the court house waiting to swear to anything for a price) being all too common.¹⁰¹ For this reason and others related to it, the result was that some individuals began executing a document – often called a deed or charter of feoffment – that did not replace the ceremony and oral transfer, but instead served as after-the-fact evidence of it, using language in the past tense.¹⁰²

The *need-for-a-token* problem in land transactions, however, eventually became a problem of public administration. English revenue officials needed a better way to determine when property had changed hands and triggered tax implications.¹⁰³ So, in 1536, the English statute of enrolments¹⁰⁴ came into effect, which required so-called bargain and sale¹⁰⁵ transactions of freehold interests in real property to occur in writing under seal, with the document thereafter recorded in a land records registry.¹⁰⁶ From this point onward, a transfer of this particular type of legal interest in land – although not as prevalent as other types of transfer at the time, such as leaseholds¹⁰⁷ – required a written document to memorialize the transaction.¹⁰⁸ Indeed, a token was required.

see also JAMES J. WHITE & ROBERT S. SUMMERS, *UNIFORM COMMERCIAL CODE* 1304 (West 6th ed. 2010) (explaining the overlap of UCC sections discussing securities entitlements).

⁹⁸ JAMES H. BREWSTER, *THE CONVEYANCE OF ESTATES IN FEE BY DEED* § 11, at 11 (The Bobbs-Merrill Company 1904).

⁹⁹ *Id.*

¹⁰⁰ *Id.* § 14, at 12–13.

¹⁰¹ G.H.L. Fridman, *The Necessity for Writing in Contracts Within the Statute of Frauds*, 35 U. TORONTO L.J. 43, 47 (1985); FRANKLIN G. SNYDER & MARK EDWIN BURGE, *AMERICAN CONTRACT LAW FOR A GLOBAL AGE* 259 (CALI eLangdell Press 2017).

¹⁰² BREWSTER, *supra* note 98, § 15, at 13.

¹⁰³ See SNYDER & BURGE, *supra* note 101, at 259 (stating that the deed system helped tax collectors discern who owned what).

¹⁰⁴ Statute of Enrolments, 27 Hen. 8, c. 16 (1536) (Eng.).

¹⁰⁵ *Deed*, BLACK’S LAW DICTIONARY (11th ed. 2019) (“[B]argain-and-sale deed. (1863) A deed that lacks an express covenant about the validity of the title but implies that the grantor holds title to the property and conveys it to a buyer for valuable consideration.”).

¹⁰⁶ BREWSTER, *supra* note 98, § 12, at 12.

¹⁰⁷ *Id.* § 13, at 12.

¹⁰⁸ *Id.* § 12, at 12. Additionally, at this time it was necessary to execute a writing in order to transfer an incorporeal right, since a livery of seisin ceremony was not possible when the thing was not land, but rather an intangible. See ROBERT T. DEVLIN, *A TREATISE ON THE LAW OF DEEDS* § 3 (Bancroft-Whitney 2d ed. 1897).

Finally, in 1677, the English Parliament passed the famous Statute of Frauds.¹⁰⁹ It, like the statutes of frauds later passed in the various jurisdictions that now comprise the United States,¹¹⁰ provided that the transfer of any interest in land required a written instrument.¹¹¹ The purpose of the law, as the name so aptly suggests, was to prevent “frauds and perjuries by requiring in many cases written evidence of a contract.”¹¹² The token, or rather, a deed, served that purpose.

To be sure, deeds are not tokens in an absolute sense. It was and is possible to acquire title to real property without a deed. For example, one may become the owner of real property through intestate inheritance, the rights of a spouse, or adverse possession for the required period of time.¹¹³ However, deeds created an efficient way of establishing the relative rights of parties in voluntary land transactions. Aside from the exceptions, a deed was necessary to convey real property interests, doing so efficiently through notice rules. The original common law rule simply provided that one who acquired real property through a deed had superior title to any subsequent party who also purported to acquire title to that same property via a deed.¹¹⁴ Over time, this general rule underwent modifications through the introduction of recording system statutes that incentivized grantees to make their deeds known, typically by recording them in a public registry of land transfers.¹¹⁵ The token, the deed, showed that the transaction had actually occurred and served as the foundation for a property recording system inspectable by the public – essentially, a public repository of land tokens. Today, the holder of the token, the deed, is the holder of the rights in the real property relative to others also claiming title through a deed. The token embodies rights in the land and, with notice rules, works to moderate land title disputes.

1.1.4 *Bills of Lading*

Yet another example of tokens in the law is the bill of lading, a document that a carrier of goods issues upon receipt of goods set for shipment.¹¹⁶ The document contains

¹⁰⁹ An Act for the Prevention of Frauds and Perjuries, 1677, 29 Car. 2 c. 3 (Eng. & Wales). American courts subsequently followed English courts when construing their own statute of frauds. See DEVLIN, *supra* note 108, § 4, at 5.

¹¹⁰ W.B. MARTINDALE, A TREATISE ON THE LAW OF CONVEYANCING § 3, n.1 (Central Law Journal Company 2d ed. 1889) (listing each US state’s codified version of the statute of frauds).

¹¹¹ See DEVLIN, *supra* note 108, § 4, at 5.

¹¹² MARTINDALE, *supra* note 110, § 2.

¹¹³ 1 LEWIS N. DEMBITZ, A TREATISE ON LAND TITLES § 28 (St. Paul, West Publishing 1895) (describing title acquired by descent); *id.* § 104 (describing title acquired through marital rights); see *id.* § 175 (describing title acquired by prescription, a type of adverse possession).

¹¹⁴ John H. Scheid, *Down Labyrinthine Ways: A Recording Acts Guide For First-Year Law Students*, 80 U. DET. MERCY L. REV. 91, 102–03 (2002).

¹¹⁵ See Christopher L. Peterson, *Two Faces: Demystifying the Mortgage Electronic Registration System’s Land Title Theory*, 53 WM. & MARY L. REV. 111, 115 (2011).

¹¹⁶ FRED H. MILLER, SALES AND LEASES OF GOODS 127 (Thomson West 4th ed. 2003); U.C.C. § 1–201(b)(6) (AM. L. INST. & UNIF. L. COMM’N 2018).

certain information about the goods, the parties, the destination of the goods, and any special terms about the delivery.¹¹⁷ If the bill of lading indicates to whom the goods should be delivered when they reach their destination (called a *straight bill of lading* because it is nonnegotiable), then the carrier may only deliver the goods to that person.¹¹⁸ However, if the bill of lading is negotiable, then the carrier must deliver the goods to whomever possesses the document and is indicated on its face.¹¹⁹

In this way, the bill of lading controls who receives possession of the goods. Specifically, a bill of lading is a type of document of title.¹²⁰ Hence, it controls ownership of the goods while in transit.¹²¹ The bill of lading is a token for the goods. The law gives legal recognition to the bill of lading's role through Article 7 of the UCC and under the Federal Bill of Lading Act.¹²²

Like with the other examples of legal tokenization, the bill of lading emerged to solve a very specific problem relationship between distant parties in a commercial sales transaction.¹²³ For example, the buyer of goods desires to purchase them from a commercial seller, but the two parties are unfamiliar with each other.¹²⁴ The seller is uncertain of the buyer's ability to pay for the goods, which the buyer will not pay for until they actually receive and inspect them.¹²⁵ The seller, of course, is hesitant to ship goods without receiving some form of payment.¹²⁶ So, to solve this issue, the seller ships the goods to the buyer through a commercial carrier.¹²⁷ At the time of shipment, the carrier issues a bill of lading, which can be made out, for example, to the seller or its agent.¹²⁸ The goods are shipped and, at the same time, the seller sends the bill of lading ahead to his own agent who awaits delivery at the destination location.¹²⁹ Upon taking delivery of the goods, the seller's agent meets with the buyer to negotiate over the bill of lading in exchange for payment.¹³⁰ This way, the seller maintains legal control of the goods until payment.¹³¹ With the bill of lading now in hand, the buyer can direct the carrier to deliver the goods.¹³²

¹¹⁷ See MILLER, *supra* note 116, at 127–28.

¹¹⁸ *Id.* at 130.

¹¹⁹ *Id.* at 129–130 (discussing the differences between negotiable and non-negotiable bills of lading).

¹²⁰ *Document of Title*, BLACK'S LAW DICTIONARY (11th ed. 2019); U.C.C. § 1–201(b)(6) (AM. L. INST. & UNIF. L. COMM'N 2018).

¹²¹ See RALPH H. FOLSOM & MICHAEL P. VAN ALSTINE, *PRINCIPLES OF INTERNATIONAL BUSINESS TRANSACTIONS* 201–03 (West Academic 4th ed. 2017).

¹²² See U.C.C. § 7–309(a) (AM. L. INST. & UNIF. L. COMM'N 2018); Ch. 415, 39 Stat. 538 (1916) (codified as amended at 49 U.S.C. §§ 80101–80116).

¹²³ See MILLER, *supra* note 116, at 130–31.

¹²⁴ *Id.*

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ FOLSOM & VAN ALSTINE, *supra* note 121, at 7, 9.

¹²⁸ MILLER, *supra* note 116, at 130–31.

¹²⁹ *Id.*

¹³⁰ *Id.*; FOLSOM & VAN ALSTINE, *supra* note 121, at 7–8.

¹³¹ See MILLER, *supra* note 116, at 130–131; FOLSOM & VAN ALSTINE, *supra* note 121, at 7.

¹³² MILLER, *supra* note 116, at 130–131.

In essence, the chief function of the bill of lading is to serve as “a legal embodiment of the rights to the goods described therein.”¹³³ It is a true token – it embodies the legal rights in the goods shipped.¹³⁴ The carrier will only deliver the goods to the person designated in the document.¹³⁵ The bill of lading is the token and the holder of it has the exclusive rights in the goods.

* * * *

1.2 NFTS AND TOKENIZATION’S MISMATCH

Each of the tokenization examples described in Part I arose from a commercial need. This Chapter acknowledges that the use of the internet in commercial transactions has created a need for digital uniqueness because copyright-protected works can be copied perfectly online.¹³⁶ Although digital uniqueness is a noble goal, this Part will show that NFTs, at least as currently structured, do not provide that uniqueness for the underlying asset. The key to a true token is that the transfer system for the token provides a method of transferring the intangible rights embodied in the token.¹³⁷ This Part also explains that current law does not give NFTs *tethering* effects – specifically, that the current system of property and commercial law does not provide the legal tethering of the NFT to another asset. Of course, just because current law does not provide tethering effects does not mean that it could not. Indeed, as noted in Part I, all the current forms of legal tokens stem from commercial practices that the law eventually recognized. For example, the trading of paper notes as a substitute for currency was a commercial activity that worked in practice among merchants, and so eventually received legal effect by the courts.¹³⁸ But as currently constituted in the marketplace, the theoretical justifications for doing the same with NFTs are dim.¹³⁹

¹³³ FOLSOM & VAN ALSTINE, *supra* note 121, at 203.

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ See Joshua A.T. Fairfield, *Tokenized: The Law of Non-Fungible Tokens and Unique Digital Property*, 97 IND. L. J. 1261, 1264 (2022) (explaining that uniqueness is hard to achieve in a digital environment in which every file is transferred by making a copy of that file).

¹³⁷ See Rogers, *supra* note 45, at 200 (explaining that the method of transferring negotiable instruments would be of no interest if all that was being transferred was a piece of paper).

¹³⁸ See Frederick K. Beutel, *The Development of Negotiable Instruments in Early English Law*, 51 HARV. L. REV. 813, 813 (1938) (stating that the law of negotiable instruments, now codified, is “merely declaratory of the common law which was worked out carefully case by case in the king’s courts in England practically with no outside aid or substantial legislative enactment”).

¹³⁹ We note that several academics and industry experts assert that they are currently working on developing technologies that would improve upon the current mechanics of NFT operation. See, e.g., Diana Stern, Dazza Greenwood & Bryan Wilson, *NFT Legal & Licensing Integration*, MIT COMPUTATIONAL L.REP. (July 30, 2021), <https://law.mit.edu/pub/ideaflow6/release/5?readingColle>

1.2.1 NFTs are Not Tethering

First, NFTs do not actually embody property rights in a reference asset. As this Chapter notes, promoters of these tokens say that they can establish “an immutable record of ownership” and will allow for the purchase of fractional rights in an underlying asset.¹⁴⁰ In other words, ownership of the token conveys ownership of something else. But NFTs, as currently constituted, do no such thing. They are not *tethering* – they do not embody property rights in a reference thing.

The many kinds of legal tokens discussed in Part I actually serve a tethering function.¹⁴¹ The deed has a legal connection to the land it describes.¹⁴² It serves as the vehicle to convey property rights in the land (the underlying/reference asset).¹⁴³ And, when proper notice is given of such a conveyance, the deed actually creates superior property rights relative to certain other classes of persons claiming rights in the same land.¹⁴⁴ Negotiable instruments have a similar tethering function.¹⁴⁵ The party that enjoys the status of holder of the instrument, which includes having possession of it, acquires a particular set of rights in the underlying debt – specifically, the ability to enforce it against the debtor under the instrument and to avoid most defenses that the debtor can raise.¹⁴⁶

But in the case of NFTs, there is no tethering. Creating an NFT of another thing – whether tangible or intangible – creates no legal link as is created with the examples in Part I. The creation of an NFT and its purchase by a third person, without more, conveys no actual rights in the digital painting.

Despite this legal reality, the NFT minting and auctioning platforms suggest that the owner of an NFT owns not only the NFT but the reference asset. Sometimes these platforms make representations on their websites inconsistent with their well-hidden terms of service. One example is the Rarible platform. On Rarible’s “What is an NFT?” page, it explains that NFTs prove ownership of a digital asset, such as digital artwork, and that before the development of NFTs, digital assets “were like photocopies.”¹⁴⁷ The Terms and Conditions tell a more complicated story, however. The terms refer to the minting of “Collectibles,” defined as the creator’s content,

ction=occ42822 [<https://perma.cc/X4TA-P5MS>] (describing an approach aimed at integrating legal and technical licensing terms for intellectual property into an NFT’s metadata). The analysis in this Article, however, focuses on extant NFT systems, on the theory that any future technology that would address these critiques is too speculative at present.

¹⁴⁰ Laurent et al., *supra* note 14, at 63; *see also* Burne, *supra* note 13.

¹⁴¹ *See supra* Part I.

¹⁴² *See supra* Section I.C.

¹⁴³ *See supra* Section I.C.

¹⁴⁴ *See supra* Section I.C.

¹⁴⁵ *See supra* Section I.A.

¹⁴⁶ *See supra* Section I.A.

¹⁴⁷ What Is an NFT?, RARIBLE <https://rarible.com/how-it-works/getting-started/what-is-an-nft> (last visited November 21, 2022) [<https://perma.cc/F7FH-BGQR>].

such as artwork, and the NFT.¹⁴⁸ However, after this definition, the terms regularly describe the two as separate assets. Most importantly, the terms subsequently define “Collectible Image” as the image file associated with the Collectible, and place the Collectible Image within the category of “Collectible Metadata.”¹⁴⁹ After the terms define the components of the NFT, they disclaim any tether between the NFT and the underlying creative work by stating that:

In the absence of an express legal agreement between the creator of any Collectibles and purchasers of Collectibles, there cannot be any guarantee or assurance that the purchase or holding of Collectibles confers any license to or ownership of the Collectible Metadata or other intellectual property associated with Collectibles or any other right or entitlement, notwithstanding that you may rightfully own or possess the Collectible.¹⁵⁰

One can find another example of the confusion created by NFT terms in the Terms and Conditions for the Bored Ape Yacht Club.¹⁵¹ Bored Apes, as mentioned in the Introduction, made headlines several times in 2022. In May, actor Seth Green “was robbed of” several Bored Apes that he had planned to use in an upcoming animated series,¹⁵² and in August, rappers Snoop Dogg and Eminem performed as their Bored Ape avatars at the Video Music Awards.¹⁵³ The Terms and Conditions provide a confusing and nonsensical mash of license and ownership rights to the holder of a Bored Ape NFT.

The Bored Ape Terms and Conditions are short and written in clear language. Clarity stops there, however. The first paragraph of the “Ownership” section tells the buyer of a Bored Ape NFT that “you own the underlying Bored Ape, the Art, completely.”¹⁵⁴ The second and third paragraphs, governing personal use and commercial use of the Bored Apes, appear to take away some of that “complete” ownership by stating that the developer, Yuga Labs, grants the buyer an “unlimited, worldwide license to use, copy, and display the Art” for a variety of purposes.¹⁵⁵ If viewed as Yuga Labs transferring ownership of the Art completely, it is hard to

¹⁴⁸ *Terms and Conditions*, RARIBLE <https://static.rarible.com/terms.pdf> (last visited November 21, 2022) [<https://perma.cc/RV36-7KJW>] [hereinafter Rarible Terms] (section 2.4 lists items, such as artwork, that fall under this definition).

¹⁴⁹ *Id.* (Section 13.1 gives these examples in the larger context of disclaimers.).

¹⁵⁰ *Id.* (This language also appears under section 13.1.).

¹⁵¹ *Terms and Conditions*, BORED APE YACHT CLUB <https://boredapeyachtclub.com/#/terms> (last visited November 21, 2022) [<https://perma.cc/5ZEC-HYF4>] [hereinafter BAYC Terms].

¹⁵² Sarah Emerson, *Someone Stole Seth Green's Bored Ape, Which Was Supposed to Star in His New Show*, BUZZFEED (May 24, 2022) www.buzzfeednews.com/article/sarahemerson/seth-green-bored-ape-stolen-tv-show [<https://perma.cc/RC7G-JBXL>].

¹⁵³ Shanti Escalante-DeMattei, *Eminem and Snoop Dogg Performed as Their Bored Ape Yacht Club Avatars at the VMAs*, ARTNEWS (August 29, 2022, 2:30 PM) www.artnews.com/art-news/news/eminem-snoop-dogg-bored-ape-yacht-club-vm-as-1234637677/ [<https://perma.cc/3NSG-X7S5>].

¹⁵⁴ BAYC Terms, *supra* note 151.

¹⁵⁵ *Id.*

understand how it retains rights sufficient to license the Art. It is possible that Yuga Labs means to distinguish between the Art as “thing,” or the NFT, and the intellectual property rights in the Art, much in the same way that the purchaser of a painting does not receive intellectual property rights in that painting, but may, under copyright’s first sale doctrine, transfer the painting to another person.¹⁵⁶ But an owner of a tangible work of art has the right to exclude others from enjoying that art. An owner of a Bored Ape NFT has no ability to exclude others from enjoying the Bored Ape, as anyone can see it by clicking on the provenance link for any Bored Ape on the Bored Ape Yacht Club website.¹⁵⁷

The terms of service themselves hardly make clear what the company otherwise promises the users. If it is true that the token establishes ownership of an external asset, then one can only reach this conclusion through a very creative reading of the contract text. Moreover – unlike the examples of tokenization in Part I – there is no actual, current law that would give an NFT such a tethering effect. In all the examples of legal tokenization, there was an underlying law. With negotiable instruments, it is Article 3 of the UCC.¹⁵⁸ With securities, it is state corporate law and Article 8 of the UCC.¹⁵⁹ With deeds, it is the common law of property and subsequently specialized state statutes.¹⁶⁰ The tethering that occurs under bills of lading is also due to state and federal law.¹⁶¹ No tethering is occurring merely because a contract says so – although it is again noted that while many of these platform websites say tethering occurs, the terms of service conflict or confuse the issue entirely.¹⁶² In any event, legal recognition is needed and there is none when it comes to NFTs.

To that point, there is reason to be skeptical that legal recognition is forthcoming. Throughout history, legal rules developed when markets matured. New technologies give rise to individualism. The development of cyberspace in the late twentieth century is a memorable example of this phenomenon; internet entrepreneurs often claimed that cyberspace meant the end of rules by national governments.¹⁶³

¹⁵⁶ See JOHN R. THOMAS & ROGER E. SCHECHTER, *PRINCIPLES OF COPYRIGHT LAW* § 6.3.2.1 (Thomson Reuters 2010) (discussing the first sale doctrine).

¹⁵⁷ *Provenance Record*, BORED APE YACHT CLUB <https://boredapeyachtclub.com/#/provenance> (last visited November 21, 2022) [<https://perma.cc/TC2X-HZMV>] (Clicking on any link on this page allows the person viewing the website to view the Bored Ape and save it as a pdf.).

¹⁵⁸ See *supra* Section I.A.

¹⁵⁹ See *supra* Section I.B.

¹⁶⁰ See *supra* Section I.C.

¹⁶¹ See *supra* Section I.D.

¹⁶² See Carol M. Rose, *What Government Can Do for Property (and Vice Versa)*, in *THE FUNDAMENTAL INTERRELATIONSHIPS BETWEEN GOVERNMENT AND PROPERTY* 213–15 (Nicholas Mercuro & Warren J. Samuels eds., JAI Press 1999).

¹⁶³ See, e.g., John Perry Barlow, *A Declaration of the Independence of Cyberspace*, EFF (February 8, 1996), www.eff.org/cyberspace-independence [<https://perma.cc/4S4U-EKUQ>] (addressing his comments to “Governments of the Industrial World,” he declared that “[y]ou have no moral right to rule us nor do you possess any methods of enforcement we have true reason to fear”); see also DEBORAH L. SPAR, *RULING THE WAVES: CYCLES OF DISCOVERY, CHAOS, AND WEALTH FROM THE*

The same sentiment permeates the words of those who promote cryptocurrencies¹⁶⁴ and NFTs.¹⁶⁵ These entrepreneurs come back to governments for rules because governments can protect their property rights and “keep the pirates at bay.”¹⁶⁶ The problem with NFTs, however, is that the only property right to protect is in the token itself, not the underlying asset.¹⁶⁷

1.2.2 *The Problem: Non-rivalrousness. The Solution: Not an NFT*

Non-rivalrousness poses challenges to creators of artistic works. Unlike a tangible asset, such as a chair, and some intangible assets, such as internet domain names, creative works, such as music, can be enjoyed by many people at once. If one person listens to a song, another person can listen to it at the same time without diminishing the quality of the song.¹⁶⁸ If one person views digital art on their computer, another person can view the same piece on their computer. Since many people can enjoy and copy creative works, creators can be hindered from earning money from their work.¹⁶⁹ The non-rivalrousness of creative works is one justification for copyright protection, which gives creators control over the use of their creations.¹⁷⁰

Pre-internet, a copy of a work was likely an imperfect copy. The internet exacerbated the need to protect copyrighted musical recordings, as its emergence presented great problems in the music community, particularly the unauthorized distribution of perfect copies.¹⁷¹

COMPASS TO THE INTERNET 22 (Harcourt 2001) (describing a 1997 Harvard conference at which an internet entrepreneur pronounced that the growth of the internet would lead to the end of governments, which would no longer have any way to do things like “track illegal activity” and “collect the taxes that permitted them to exist”).

¹⁶⁴ Sydney Maki & Vildana Hajric, *Wall Street Asks If Bitcoin Can Ever Replace Fiat Currencies*, BLOOMBERG (June 13, 2021, 9:00 AM), www.bloomberg.com/news/articles/2021-06-13/wall-street-asks-if-bitcoin-can-ever-replace-fiat-currencies [<https://perma.cc/9CVD-MEWA>] (“There’s been a lot of people who have sat in the crypto world who’ve said, ‘Oh, crypto is going to take over the world and traditional banks and central banks will go away ...’” (quoting Julian Sawyer, CEO of the crypto-exchange called Bitstamp)).

¹⁶⁵ Thompson, *supra* note 7 (explaining why “crypto natives” believe that NFTs illustrate a future of digital property, “when government will lose its unique power to mint currency and protect property”).

¹⁶⁶ SPAR, *supra* note 163, at 20–21.

¹⁶⁷ Note that it is not entirely clear whether one actually owns an NFT. This is particularly true since the various terms of service describe the user as receiving a highly transient license right. Nevertheless, this Article does not opine on the property nature of the NFT itself.

¹⁶⁸ See Brett M. Frischmann, *An Economic Theory of Infrastructure and Commons Management*, 89 MINN. L. REV. 917, 945–46 (2005) (explaining the difference between rivalrous and non-rivalrous assets).

¹⁶⁹ See Christopher S. Yoo, *Copyright and Product Differentiation*, 79 N.Y.U. L. REV. 212, 214–15 (2004) (explaining the economic costs of producing non-rivalrous works).

¹⁷⁰ *Id.* at 215.

¹⁷¹ See Harold R. Weinberg, *Introduction: From Sheet Music to MP3 Files – A Brief Perspective on Napster*, 89 KY. L.J. 781, 789 (2001) (explaining that “background noise is virtually eliminated from digitally-recorded music, which also has greater fidelity to the recorded performance”).

Creators of visual works, however, never relied much on copyright to protect the value of their works. Broadly speaking, a painting consists of two sets of property elements: the *intellectual property rights* embodied in the work protected by copyright and *traditional property rights* represented by the physical manifestation of the piece. A purchaser of a painting obtains the latter rights, while the creator retains the former.¹⁷² And indeed, some maintain that visual artists do not even need copyright to protect their works because the value in tangible visual art rests in their uniqueness or in limited editions.¹⁷³

Enter the internet. As with music, it is possible to make a perfect copy of a digital work of art. More importantly, there is no such thing as a unique copy of a digital file. Thus, because the visual art market thrives on scarcity, and there is no scarcity when the art is digital, there is a concern that visual artists who work only in a digital format will have difficulty monetizing their works.¹⁷⁴ This concern presents the problem that NFTs purportedly solve, raising the question of whether they, in fact, solve the problem.

Digital visual art lacks rivalrousness, as it can be viewed on many computers at once. One way that digital artists can monetize their work is by presenting the work in a way that ensures rivalrousness. One such method is by embedding that work in a unique physical manifestation. The hip-hop group Wu-Tang Clan did exactly that in 2015, producing one copy of its album “Once Upon a Time in Shaolin” and selling it in an ornate hand-carved box that contained the album, a leather-bound book of the lyrics, and a history of each of the album’s 31 songs.¹⁷⁵

The art world has solved rivalrousness problems before without resorting to new technologies. Conceptual art is an art form that consists of the creator’s idea combined with instructions about how to present the work.¹⁷⁶ Museums and collectors have bought conceptual art for millions of dollars.¹⁷⁷ That anyone would pay that much for an idea executable by almost anyone seems absurd, but the art market has found a way to make such works of art effectively rivalrous. Participants in the art market do so by agreements under which only one person or entity can display the work at a time.¹⁷⁸ Since everyone in the art market respects these agreements,

¹⁷² See Guy A. Rub, *Owning Nothingness: Between the Legal and the Social Norms of the Art World*, 2019 B.Y.U. L. REV. 1147, 1164–65 (2019) (explaining the different types of property rights embodied in tangible visual artworks).

¹⁷³ See Amy Adler, *Why Art Does Not Need Copyright*, 86 GEO. WASH. L. REV. 313, 330 (2018).

¹⁷⁴ See Brian L. Frye, *Epilogue to POSTHUMOUS ART, LAW AND ART MARKET: THE AFTERLIFE OF ART* 214, 217 (Sharon Hecker & Peter J. Karol eds., Routledge 2022).

¹⁷⁵ See Devin Leonard & Annmarie Hordern, *Who Bought the Most Expensive Album Ever Made?*, BLOOMBERG BUSINESSWEEK (December 9, 2015), www.bloomberg.com/features/2015-martin-shkreli-wu-tang-clan-album/ [<https://perma.cc/9CRJ-FYU2>] (explaining the development and auction of the album).

¹⁷⁶ Rub, *supra* note 172, at 1161 n. 66.

¹⁷⁷ *Id.* at 1162 (discussing the market for the works of conceptual artist Felix Gonzales-Torres).

¹⁷⁸ *Id.* at 1182.

the presentation of a conceptual artwork is rivalrous, and collectors will pay large amounts of money to have the right to present.¹⁷⁹

If the scarcity provided by rivalrousness is the goal, NFTs do not achieve it. Here, it is useful to discuss protecting the rights of both the creator of the digital artwork and the purchaser of the artwork. The former's rights are intellectual property rights, including the right to control reproduction of the work and its distribution. The latter's rights are economic and traditionally tied to the ability to claim ownership of a unique work.

NFTs do nothing to address the artist's intellectual property rights. As discussed earlier in this Article, most contracts governing NFTs leave the creator's intellectual property rights intact. The creator retains the right to control copying and distribution of the creative work, just as the creator could before minting the NFT. Blockchain may have a role in protecting creators' intellectual property rights; at least some commentators posit that a blockchain-based copyright registry would more reliably provide information about the ownership of copyrights than the existing system maintained by the United States Copyright Office.¹⁸⁰

An owner's rights in a physical artwork receive protection from ordinary property concepts. Scarcity gives value. But NFTs do not mimic these property concepts and, as a result, do not provide the real or artificial scarcity on which the art market thrives. The contracts to which NFT creators and buyers agree do not give the holder of the NFT any right to control the underlying asset.¹⁸¹ At best, and only when digital assets are endogenous to the NFT, the use of computer code can show some degree of provenance.¹⁸² "Endogenous to the NFT" means, in this case, those instances (such as with our digital painting) where the underlying digital asset and the NFT are integrated on the ledger such that the association between a given person (through their cryptographic key) and the digital asset is embedded in the metadata. Therefore, even if someone else made a perfect digital replica of the painting, the code of that image file would not have the chain of title imprint embedded within.¹⁸³

¹⁷⁹ *Id.* at 1162.

¹⁸⁰ See Sebastian Pech, *Copyright Unchained: How Blockchain Technology Can Change the Administration and Distribution of Copyright Protected Works*, 18 NW. J. TECH. & INTELL. PROP. 1, 11–12 (2020) (describing the attributes of a blockchain-based copyright registry).

¹⁸¹ See *supra* Section I.B.

¹⁸² The definition of "provenance" is "the history of ownership of a valued object or work of art or literature." *Provenance*, MERRIAM-WEBSTER, www.merriam-webster.com/dictionary/provenance (last visited February 23, 2023) [<https://perma.cc/WT5E-F78G>].

¹⁸³ For another potential use of NFTs to show a record of title, but for external items, see Matthew Beedham, *Nike Now Holds Patent for Blockchain-Based Sneakers Called 'CryptoKicks'*, TNW NEWS (December 10, 2019), <https://thenextweb.com/news/nike-blockchain-sneakers-cryptokick-patent> [<https://perma.cc/X8WB-JF35>]. Yet, here again, this would be entirely enforced by the market, not by law, since the market would have to ascribe to the notion that there is inherent value in owning not only the physical Nike shoe but also the NFT associated with that shoe. See Tim Fries, *CryptoKicks: Nike to Tokenize Shoe Ownership on Ethereum*, TOKENIST (December 11, 2019), <https://tokenist.com/cryptokicks-nike-to-tokenize-shoe-ownership-on-ethereum/> [<https://perma.cc/9568-JXGM>].

But, more broadly, many of the works transformed into NFTs are freely available for download by anyone with a computer – including the authors’ own digital image of the bovine oil painting referenced above. In another instance, a *New York Times* technology columnist turned a column about creating an NFT into an NFT.¹⁸⁴ NFTs created a market for internet memes, items that are, by definition, spread widely online.¹⁸⁵

Tokens evolved to solve practical problems related to the transfer and ownership of assets. Although NFTs emerged in the digital art world, they do not solve any of the most decried problems related to digital art. If the problem for digital artists is an inability to profit from their works because of a lack of scarcity, tokenization is not the answer. The NFT craze has enabled artists to profit from their works, but there is reason to be skeptical that this will last when participants in the NFT market realize that their NFTs give them no rights in the underlying creative works.

* * * *

1.3 NFT TRANSACTIONS AND POLICY IMPLICATIONS

This chapter endeavors, as noted in the Introduction, to not only orient readers to the world of NFTs and commercial transactions, but also to assist courts and private parties as they deal with transactions involving NFTs in the marketplace. This final Part III places NFTs within the context of commercial law and then turns to the 2022 amendments to the UCC to show how recent changes in this body of law impact NFTs – as well as how they do not.

1.3.1 NFT Markets and Legal Effects

This section sets forth two example transactions involving NFTs that parties have and are predicted to enter (and which courts will have to deal with). In doing so, this Section shows how the law should treat these deals and what the outcomes would be. Recall that, as described in Part I, legal tokens entail that the holder has rights in some kind of underlying thing. The transfer of a negotiable instrument enables the new holder the right to enforce the instrument against the obligee.¹⁸⁶ The transfer of

¹⁸⁴ Roose, *supra* note 7. A buyer then bought the column NFT at auction for \$560,000, which the author donated to charity. Kevin Roose, *Why Did Someone Pay \$560,000 for a Picture of My Words?*, N.Y. TIMES (Mar. 26, 2021), www.nytimes.com/2021/03/26/technology/nft-sale.html [<https://perma.cc/Y5YB-3DXL>].

¹⁸⁵ The definition of “meme” is “an amusing or interesting item (such as a captioned picture or video) or genre of items that is spread widely online especially through social media.” *Meme*, MERRIAM-WEBSTER, www.merriam-webster.com/dictionary/meme (last visited February 24, 2023) [<https://perma.cc/2H5R-FHW2>].

¹⁸⁶ See *supra* Section I.A.

a security enables the new holder the economic and governance rights in the corporate entity to which the security relates.¹⁸⁷ The transfer of a bill of lading allows the transferee the right to possess the goods – essentially, ownership of them.¹⁸⁸ The list goes on – the transferee of a true, legal token gets something. However, the transferee of an NFT gets nothing in terms of a tethered asset. And indeed, sometimes it is not certain that the transferee even gets the NFT.¹⁸⁹

1.3.1.1 Sales and NFTs

The first example transaction is perhaps no surprise considering that this is the dominant type of NFT transaction in today's market – the sale. The auction process on NFT sites like Mintable, Foundation, and others is all about a buyer purchasing an NFT with cryptocurrency. The idea, as noted in Part I, is that the person who purchases the NFT acquires two things: (i) the NFT itself and (ii) the reference asset. This writing does not address the sale of only the NFT. In a recent article, Professor Joshua Fairfield addresses the issues around such sales – specifically whether the sale of an NFT should be treated as the transfer of contract rights¹⁹⁰ or the transfer of a right in personal property.¹⁹¹ In contrast, this Section focuses on the arguably more lauded aspect of NFT transfers – the acquisition of rights in the reference thing by virtue of acquisition of the NFT.

Imagine that a seller owns a sculpture (a tangible asset). Seller then mints a digital token in connection with this sculpture, intending, as the minting platform provides,¹⁹² for the digital token to embody ownership in the sculpture. The NFT's auction page includes a picture of the sculpture, and the item description gives the name and medium of the work. Seller then conveys the NFT to Buyer 1 through the platform's auction process. After the transaction is complete, but before Buyer 1 obtains delivery of the sculpture, Seller sells the sculpture to Buyer 2, who takes delivery of it at the time of sale. The question then becomes: between Buyer 1 and Buyer 2, who has superior rights in the sculpture? Is it Buyer 1 who purchased the NFT and did so first in time, or is it Buyer 2 who purchased the sculpture directly, although second in time?

¹⁸⁷ See *supra* Section I.B.

¹⁸⁸ See *supra* Section I.D.

¹⁸⁹ See Adam J. Levitin, *Not Your Keys, Not Your Coins: Unpriced Credit Risk in Cryptocurrency*, 101 TEX. L. REV. 877 (2022).

¹⁹⁰ See CAL. CIV. CODE § 1624.5 (West 2022); N.Y. U.C.C. LAW § 1–207 (McKinney 2014); RESTATEMENT (SECOND) OF CONTRACTS §§ 317, 324 cmt. a (AM. L. INST. 1981); U.C.C. § 1–206 (AM. L. INST. & UNIF. L. COMM'N 2018).

¹⁹¹ Fairfield, *supra* note 136, at 1301. Fairfield argues that they should be treated as property and that the rules on the sale of goods should apply. See *id.*; see also U.C.C. § 2–105(1) (AM. L. INST. & UNIF. L. COMM'N 2018) (defining “goods” as all things movable, except the purchase money itself); *id.* § 9–109(a)(3) (AM. L. INST. & UNIF. L. COMM'N 2018) (providing the scope of Article 9, which includes “a sale of accounts, chattel paper, payment intangibles, or promissory notes”).

¹⁹² See *supra* note 39 and accompanying text.

The answer is clearly that Buyer 2 wins. The sale of the NFT did not transfer anything to Buyer 1 (except for the NFT itself). The reason for this is that there is nothing tethering about the NFT that would create a legal connection between it and the sculpture. Merely uploading a picture of the sculpture alongside the NFT does not change this, despite what the minting platform may say. The law does not give legal effect to the NFT as a true token. Thus, a transfer of the token transfers nothing else.

Even when the facts are changed to be slightly more favorable to Buyer 1, the result is likely the same. As part of the marketing of the NFT, Seller actually represents in the item description that whoever wins the auction for the NFT will become the owner of the sculpture. Here, the promise related to the sale of the sculpture is express, rather than implied. Assume that when Buyer 1 wins the NFT, this (combined with Seller's representation) creates a separate contract of sale of the sculpture (a sale by e-contract¹⁹³ and not by virtue of merely acquiring the NFT). Yet again, if Buyer 2 takes possession of the sculpture before Buyer 1, Buyer 2 still wins.

This is because, absent true tokenization, the sale of tangible personal property (the sculpture) can only be completed by delivery.¹⁹⁴ Until such time, although the sale may be effective between the seller and the buyer, it will have no effect as to anyone else.¹⁹⁵ The issue can then arise that a seller conveys personal property to one person, who does not yet take delivery, and then conveys that same property to someone else, who does take possession. The rule, long articulated by U.S. courts, is that “[a]s between two bona fide purchasers of the same chattels,” the one “who first obtains delivery and possession of them has the better title against the other.”¹⁹⁶ This is true “notwithstanding the contract of sale of the [second buyer] with the vendor may have been prior in point of time to that of the [first buyer].”¹⁹⁷

Applying this rule, Buyer 2 will typically win. All Buyer 2 must do is receive possession first and be a bona fide purchaser.¹⁹⁸ To be such a purchaser (often also called a good-faith purchaser), one must typically give value to the seller with the belief that the seller possesses the authority to convey the thing, as well as acquire

¹⁹³ See WHITE & SUMMERS, *supra* note 97, at 5–8 (discussing internet sales and electronic contracting).

¹⁹⁴ See *Lanfear v. Sumner*, 17 Mass. (16 Tyng) 110, 113 (1821) (“The general rule is perfectly well established, that the delivery of possession is necessary in a conveyance of personal chattels, as against every one but the vendor.”).

¹⁹⁵ This rule has a long history. See *id.* at 114; see also *Slaton v. Davis*, 246 P. 863, 864 (Okla. 1926) (“[D]elivery of possession is necessary in a conveyance of personal chattels, as against every one but the vendor. When the same goods are sold to two different persons, by conveyances equally valid, he who first lawfully acquires the possession will hold [it] against the other.” (quoting *Lanfear*, 17 Mass. (16 Tyng) at 113)).

¹⁹⁶ *Brown v. Pierce*, 97 Mass. 46, 48 (1867); see also *Jewett v. Lincoln*, 14 Me. 116, 120 (1836) (“[W]here different persons claim the same goods by conveyances equally valid, he who first lawfully acquires the possession, has the better title.”).

¹⁹⁷ *Brown*, 97 Mass. at 48.

¹⁹⁸ See *Cummings v. Gilman*, 90 Me. 524, 525–527 (1897) (discussing the law applied to bona fide purchasers).

the thing under facts and circumstances that would not make the buyer inquire about the seller's title or right to sell.¹⁹⁹

In typical arms-length transactions involving strangers, Buyer 2 will easily meet these requirements. Buyer 2 will reasonably assume that Seller owns the sculpture if Seller possesses it, and, absent clues to suggest otherwise, Buyer 2 is under no obligation to inquire about Seller's title.²⁰⁰ Even the requirement of giving value is construed to be rather nominal.²⁰¹ Assuming that Buyer 2 does not know about the transaction with Buyer 1, then Buyer 2, who takes possession of the sculpture first, will prevail over Buyer 1. Now, of course, this does not mean that Buyer 1 is without a remedy. Buyer 1 will have a breach-of-contract claim against Seller,²⁰² but Buyer 1 will not be able to receive the remedy Buyer 1 really wants – ownership of the sculpture. And the primary reason for this is, once again, that the NFT is not a *true* token. Transfer of the token does not transfer rights to anything else.

1.3.1.2 Secured Credit and NFTs

The non-tethering nature of NFTs also poses a problem for secured creditors. A person with an NFT might want to borrow against it, and the transaction in which an NFT would serve as collateral for a loan would be governed under Article 9 of the UCC.²⁰³ In 2019, the sponsoring entities of the UCC, the American Law Institute, and the Uniform Law Commission, appointed a committee to draft amendments to the UCC to accommodate emerging and emerged technologies.²⁰⁴ The 2022 amendments to the UCC clarify the rules governing the creation and perfection of security interests in digital assets, including but not limited to cryptocurrencies and NFTs.²⁰⁵

¹⁹⁹ See *Lanfear*, 17 Mass. at 114; see also JAMES J. WHITE & ROBERT SUMMERS., PRINCIPLES OF SALES LAW 230–235 (West 2009).

²⁰⁰ See, e.g., *In re Samuels & Co.*, 510 F.2d 139, 150 (5th Cir. 1975) (“[T]he title to goods follows their possession.”), *rev'd en banc*, 526 F.2d 1238 (5th Cir. 1976); *In re Tom Woods Used Cars, Inc.*, 21 B.R. 560, 563–65 (E.D. Tenn. 1982) (In Tennessee, “title to a car can pass [to a buyer] without assignment of the certificate of title” and accordingly, “[f]ailure to demand assignment of the title certificates” does not constitute “a lack of good faith.”).

²⁰¹ See *Werhan v. Pinellas Seafood Co.*, 404 So. 2d 570, 572 (Ala. 1981) (discussing the legal basis for why partial satisfaction can still constitute valuable consideration); *Lavonia Mfg. Co. v. Emery Corp.*, 52 B.R. 944, 946 (E.D. Pa. 1985) (discussing how an after-acquired interest in property, such as accounts receivable, could constitute value in certain situations).

²⁰² See generally WHITE & SUMMERS, *supra* note 199, at 317–88 (discussing a buyer's various remedies on account of a seller's breach under Article 2 of the UCC).

²⁰³ See U.C.C. § 9–109(a)(1) (AM. L. INST. & UNIF. L. COMM'N 2018) (“[T]his article applies to: a transaction, regardless of its form, that creates a security interest in personal property ...”).

²⁰⁴ See SUMMARY OF AMENDMENTS, *supra* note 41.

²⁰⁵ Katie Robinson, *ULC Wraps Up 131st Annual Meeting: Five New Acts Approved*, UNIF. L. COMM'N (July 13, 2022, 4:47 PM), www.uniformlaws.org/discussion/ulc-wraps#bm612b6597-280a-4d9e-aa31-5fbb67f8e5ba [<https://perma.cc/Q7MH-AB5L>]. The amendments add a new Article 12 to the UCC that would govern “Controllable Electronic Records.” See *id.*

Until those amendments are enacted by states, the existing version of Article 9 will govern lending transactions involving NFTs.

Under the current version of Article 9, an NFT is a general intangible. “General intangible” is a catch-all term under the UCC; it encompasses all assets that do not fall into any other Article 9 definition.²⁰⁶ Because an NFT is neither a good, a payment right, a security, nor any other type of Article 9 collateral, it is a general intangible. As a result, a secured party can perfect its interest in the NFT only by filing a financing statement in the applicable government office in the state in which the NFT’s owner is located.²⁰⁷

Such a perfected security interest, however, would not likely be satisfactory to a secured creditor for two reasons. The first is that it would not convey any right in the reference asset. The second is that there is no easy way to enforce the security interest in the NFT.

Part I of this chapter discussed other tokens. The law recognizes that each of these tokens grants rights in something else to the person in possession of the token. Article 9 of the UCC respects the non-UCC classification of rights. This respect for general property principles is implicit in the UCC definitions and in the general requisites for creating a security interest. The UCC defines “[s]ecurity interest” as “an interest in personal property ... which secures payment or performance of an obligation.”²⁰⁸ Article 9 defines “[c]ollateral” as “the property subject to a security interest.”²⁰⁹ One of the requirements for creation of a security interest is that the debtor have “rights in the collateral.”²¹⁰ Under all of those definitions, the collateral would be the token itself.

Article 9 also respects “linked” collateral. For example, for a promissory note secured by a property interest in an asset, the creation of a security interest in the note also creates a security interest in the lien.²¹¹ This arrangement is a codification of the long-standing principle that the mortgage follows the note.²¹² There is a practical reason that the property interests in the mortgage and note are inextricably linked: without the note that evidences the obligation to pay, the mortgage is ineffective, and without the mortgage that secures the note, the note is unsecured.²¹³ Because the creation of a security interest conveys the property rights in collateral recognized by other law, the UCC thus provides that a security interest in a mortgage is a security interest in the note secured by that mortgage. One right follows the other.

²⁰⁶ See U.C.C. § 9-102(a)(42) (AM. L. INST. & UNIF. L. COMM’N 2018).

²⁰⁷ *Id.* § 9-301(1); *id.* § 9-310(a).

²⁰⁸ U.C.C. § 1-201(b)(35) (AM. L. INST. & UNIF. L. COMM’N 2018).

²⁰⁹ *Id.* § 9-102(a)(12).

²¹⁰ *Id.* § 9-203(b)(2).

²¹¹ See *id.* § 9-203(g).

²¹² See RESTATEMENT (THIRD) OF PROPERTY: MORTGAGES § 5.4(a) (AM. L. INST. 1997) (“A transfer of an obligation secured by a mortgage also transfers the mortgage unless the parties to the transfer agree otherwise.”).

²¹³ See *id.* § 5.4 cmt. a.

Another example of linked, or tokenized, collateral is when goods are in the possession of a bailee that has issued a document of title covering those goods. Part I discussed bills of lading as tokens.²¹⁴ As discussed in that Part, a person to whom a document of title, such as a bill of lading, is negotiated obtains title to both the document and the goods covered by the document.²¹⁵ Because title to the goods is embodied in the document, the UCC provides that the perfection of a security interest in a negotiable document of title perfects the creditor's security interest in the covered goods.²¹⁶

As illustrated throughout this chapter, there is no property link between an NFT and its reference asset. All an NFT does is refer to the underlying asset; it gives no rights, including priority rights, in that asset. As a result, a security interest in an NFT will give the lender a lien only on the token itself, not on any related asset (and, in most cases, it is the related asset that has the real value that the lender really wants).

Assuming that a secure creditor will be satisfied by a lien on the token, that creditor will face hurdles in enforcing that lien. A secured party can take possession of collateral upon the debtor's default,²¹⁷ but NFTs, as intangible assets, are not possessable collateral.²¹⁸ Another UCC Article 9 enforcement section allows a secured party to notify "an account debtor or other person obligated on collateral" to pay or otherwise perform for the creditor upon default.²¹⁹ While this provision could arguably apply to NFT collateral because the definition of account debtor includes a person obligated on a general intangible,²²⁰ there are several stumbling blocks. The first is that the collection remedy has no teeth when the collateral is a general intangible. Article 9 permits an account debtor to continue to pay the debtor until it receives notification from the secured party that the secured party should receive payment instead.²²¹ If the account debtor pays the debtor after that notification, its obligation to pay will not be discharged.²²² The term "pay" is used deliberately; the remedy given to a secured party with a security interest in intangibles only has teeth when the collateral is a payment right.²²³

Even assuming that the existing enforcement provision could be effective, there is a second hurdle. As explained in the description of the terms of service governing

²¹⁴ See *supra* Section I.D.

²¹⁵ U.C.C. § 7-502(a)(1)–(2) (AM. L. INST. & UNIF. L. COMM'N 2018).

²¹⁶ *Id.* § 9-312(c)(1).

²¹⁷ *Id.* § 9-609(a)(1).

²¹⁸ See Juliet M. Moringiello, *False Categories in Commercial Law: The (Ir)Relevance of (In)Tangibility*, 35 FLA. ST. U. L. REV. 119, 127–28 (2007) (explaining that the UCC does not provide a foreclosure remedy to a creditor with a security interest in a general intangible that is not a payment right); see also Christopher K. Odinet, *BitProperty and Commercial Credit*, 94 WASH. U. L. REV. 649, 693–98 (2017) (critiquing the UCC's enforcement provisions as applied to collateral consisting of general intangibles).

²¹⁹ U.C.C. § 9-607(a)(1) (AM. L. INST. & UNIF. L. COMM'N 2018).

²²⁰ *Id.* § 9-102(a)(3).

²²¹ *Id.* § 9-406(a).

²²² *Id.*

²²³ See *id.* (providing discharge rules when the collateral is an "account, chattel paper, or a payment intangible").

NFTs, it is not clear who the account debtor is. The NFT minting platforms all deny that they have any control over the NFTs, although they reserve the right to deny the NFT owner access to the token for various breaches of the terms of service.²²⁴ Even if the platforms can deny access to the token owner, it is unlikely that they can transfer the tokens, which exist on the Ethereum blockchain. This dynamic raises a further question: who would receive notification of the default, and how would that entity turn the token over to the secured party?

* * * *

1.3.2 Article 12 and the 2022 UCC Amendments

In 2022 the UCC amendments described above were promulgated effect and, as of this writing, available to all states for enactment. The amendments added a twelfth article to the UCC, which governs the transfer of “controllable electronic records.” The amendments also revise Article 9 to accommodate financing secured by controllable electronic records.²²⁵

The Study Committee on the Uniform Commercial Code and Emerging Technologies formed in 2019 to study the entire UCC to recommend amendments to accommodate technological developments that emerged since the last major revision to the UCC, namely the Article 9 amendments that became effective in 2001. Finding that charge too broad, the committee focused on a subset of digital assets that the committee named “controllable electronic records.”²²⁶ Although the committee intended to use this term in a technologically neutral way, one of the driving forces behind the UCC amendments was the aspiration in some states, led by Wyoming and fueled by lobbying by the crypto industry, to enact laws to clarify property rights in cryptocurrencies.²²⁷ States wanted to attract cryptocurrency businesses by enacting laws intended to clarify the transfer and use of cryptocurrencies as collateral for loans.²²⁸ There were two consequences of crypto-specific commercial laws enacted by individual states – laws that rendered the Uniform Commercial

²²⁴ See Rarible Terms, *supra* note 148.

²²⁵ Robinson, *supra* note 205; see also SUMMARY OF AMENDMENTS, *supra* note 41, at 5.

²²⁶ The amendments do not use the term “digital assets” because the Uniform Law Commission had already promulgated the Uniform Fiduciary Access to Digital Assets Act, which defines “digital asset” as any “electronic record in which an individual has a right or interest.” *Revised Uniform Fiduciary Access to Digital Assets Act* (2015), NAT’L CONF. OF COMM’RS ON UNIF. STATE L. (Mar. 8, 2016), www.uniformlaws.org/shared/docs/Fiduciary%20Access%20to%20Digital%20Assets/2015_RUFADAA_Final%20Act_2016mar8.pdf [<https://perma.cc/7EFY-Y5WR>]. The Comments explain that definition includes any type of electronically stored information. *Id.*

²²⁷ See, e.g., Elena Botella, *Wyoming Wants to Be the Crypto Capital of the US*, SLATE (Jun. 28, 2021, 8:30 AM), <https://slate.com/technology/2021/06/wyoming-cryptocurrency-laws.html> [<https://perma.cc/BF3A-YPKB>].

²²⁸ See Adriana Hamacher, *America’s First Legal DAO Approved in Wyoming*, DECRYPT (July 5, 2021), <https://decrypt.co/75222/americas-first-dao-approved-in-wyoming> [<https://perma.cc/CP5R-K3UE>]; see also Chris Matthews, *How Wyoming Became the Promised Land for Bitcoin Investors*, MARKETWATCH

Code non-uniform, and questions regarding the law that a court would choose in a dispute over cryptocurrency. The 2022 Amendments to the UCC solve both of those problems.

Participants in businesses that transact in digital, or crypto, assets expressed a desire that those assets be as negotiable as negotiable instruments. To achieve that goal, the 2022 Amendments had to: provide a mechanism by which a person, be it a buyer or a lender, could “possess” the asset, and provide a rule that a good faith transferee of that asset for value could take that asset free from competing property claims if it took such possession of that asset.

The UCC Amendments do both in a new Article 12. Article 12 uses the term “control” to provide an electronic analogue to possession, an approach consistent with Articles 8 and 9 of the UCC. To have control of a controllable electronic record (CER), the CER, a record attached to the CER, or a CER recording system must give the person: i) the power to enjoy “substantially all of the benefit of the CER,” ii) the “exclusive power to prevent others” from enjoying the benefits of the CER, and iii) the ability to “transfer control of the CER” to another person.²²⁹ Recognizing that the transfer of CERs may be governed by a “multi-sig” arrangement, Article 12 provides that control may be shared among persons.²³⁰

The Article 12 control and negotiability provisions are designed to resemble the possession and negotiability provisions that apply to negotiable instruments in Article 3 of the UCC. For example, under Article 3, a person can possess a negotiable instrument on behalf of another person. Article 12 has a parallel rule: a person can have control of a CER on behalf of another person.²³¹

To facilitate negotiability, Article 12 contains take-free rules. A purchaser who takes control of a CER “for value, in good faith, and without notice” of a property claim in the CER takes that CER free from competing property claims.²³² Again, this rule mirrors the rule applicable to negotiable instruments – a purchaser who takes possession of a negotiable instrument takes that instrument free from competing property claims. In both cases, a filed financing statement is not notice of a competing property claim.

(Apr. 24, 2021), www.marketwatch.com/story/how-wyoming-became-the-promised-land-for-bitcoin-investors-11619201182 [https://perma.cc/zEHE-PDEL]; Melissa Pereira, *Regulatory Landscape in Wyoming and Wyoming's Leadership in Cryptocurrency*, REV. BANKING & FIN. L., www.bu.edu/rbfl/2022/03/28/regulatory-landscape-in-wyoming-and-wyomings-leadership-in-cryptocurrency/ (last visited February 26, 2023) [https://perma.cc/zTJ9-QDDN].

²²⁹ U.C.C. AMENDMENTS (AM. L. INST. & UNIF. L. COMM'N 2022), www.restructuring-globalview.com/wp-content/uploads/sites/21/2023/10/UCC-Amendments_2022_Final-Act-with-Comments_8-1.pdf [https://perma.cc/85XW-zWJ2] (discussing proposed U.C.C. section 12–105 (a)).

²³⁰ *Id.* (discussing proposed U.C.C. section 12–105 (b)).

²³¹ *Id.* (discussing proposed U.C.C. section 12–105 (e)).

²³² *Id.* (discussing proposed U.C.C. section 12–102 (a)(2), which is set to define a “qualified purchaser,” as well as proposed U.C.C. section 104 (e), which provides take-free rule, and its counterpart, U.C.C. section 104(f), which provides the exceptions to that rule).

Although a qualifying purchaser takes the CER free from competing property claims, the UCC amendments are silent with respect to property rights that might transfer with the CER. The drafting committee wisely left that decision to other law, and as a result, the only rights that travel with a CER for take-free purposes are payment rights embodied in two new types of collateral: the controllable account and controllable payment intangible. These two new types of collateral categories reflect the historical tokenization of payment rights in paper tokens and provide parallel rules for electronic tokens.

If the law develops to recognize tethering of referenced property rights to an NFT, the new Article 12 will facilitate the transfer of those rights with the NFT. At the time of this writing, however, all the transferee of an NFT gets is the electronic token, not any other referenced asset.

CONCLUSION

The NFT hype promises a new way of giving value to intangible assets. As legal tokens, however, NFTs fail. All legal tokens evolved to solve problems. Negotiable instruments and certificated securities developed to give certainty to the transfer of intangible rights. Deeds of real property developed to prove the transfer of land, an asset that cannot be physically transferred. Bills of lading developed to facilitate transfers of goods in transit. Other “token-like” items such as automobile certificates of title and bailment tickets provide evidence of ownership.

NFTs, however, are a solution in search of a problem. They do not provide any link to an underlying asset, and, therefore, do not facilitate the transfer of any asset. A blockchain, like a recording system, provides a record of ownership, but in the case of NFTs, all it provides is a record of who owns the NFT, not of who owns any reference asset. Representations to the contrary by crypto enthusiasts and financial engineers fail to recognize the role of private law – in this case, property law – in the tethering function. As Professor Danielle D’Onfro has observed in her work on bailments and cloud storage: “any law of technology that skirts the core principles of private law is the law of suckers.”²³³

As policymakers grapple with new assets, particularly digital assets, it is important for them to know what those new assets are, and what rights they embody. This Chapter has not only given a more concrete and sober picture of NFTs, but it has also illustrated areas of uncertainty and areas where the law – particularly property and commercial law – remains unchanged despite recent updates.

²³³ Danielle D’Onfro, *The New Bailments*, 97 WASH. L. REV. 97, 153 (2022).