

Non-Fungible Tokens and Select Art Law Considerations

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Abstract: Since 2021, non-fungible tokens (NFTs) have been a popular topic which has kindled the interest of art and technology enthusiasts and professionals. Some had very high expectations for the potential of NFTs, and in some cases, made an assessment for NFTs that go beyond the existing limits of NFTs. There have also been others who approached NFTs suspiciously and in some cases, described them as a hoax. The purpose of this study is to examine the important effects of NFTs on the art world and art law, and to consider NFTs' current and potential impacts. In this context, this article first provides an introduction to NFTs and why the author finds it interesting to think about legal issues surrounding NFTs. After providing definitions of non-fungible tokens and highlighting technical aspects of NFTs, the article then discusses select legal issues surrounding NFTs, such as the importance of legal terms and conditions of an NFT purchase, legal qualifications of NFTs, artwork ownership, artwork authenticity, artwork provenance and intermediary liability for NFT sales. One of the aims of this study is to put forward clearly what should be expected of non-fungible tokens and their potential. Another objective is to underline the fact that the unique dynamics of the art world necessitate having a unique perspective for legal matters relating to them, which is satisfied with art law and its professionals. Ultimately, this paper aims to contribute to having a more comprehensive understanding of non-fungible tokens and their impact on the art world and surrounding legal questions.

Keywords: art law; crypto assets; non-fungible tokens; blockchain; contracts law; property; securities; artwork ownership; artwork authenticity; artwork provenance



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1. Introduction

Non-fungible tokens (“NFTs”) have emerged as a phenomenon with striking popularity since 2021 (Lee 2023; Lerner et al. 2022). Although the first NFT was minted in 2014¹, surprisingly almost a decade ago, the year 2021 kindled the interest for NFTs. Wide press coverage of the sales of the works of artists like Beeple’s *Everydays: the First 5000 Days* for high prices contributed to this growing interest (Lerner et al. 2022; Von Appen 2021). Thus, NFTs, which stood as an interesting phenomenon at the intersection of art and technology², and the reason for the enormous interest in them, began to be discussed by all people and not just a small group of tech-savvies or narrow-scale art circles traditionally referred to as conservative and closed (Lee 2023; Beckman 2021).

Non-fungible tokens are a product of blockchain technology (Beckman 2021). It is therefore necessary to know (at least an adequate part of) their technical infrastructure to understand the results of concepts such as token IDs, ERC standards on the Ethereum blockchain, fungibility, on-chain and off-chain NFTs, and static and dynamic NFTs.³ The use of technical terms (usually much referred to but not adequately explained) led to confusion, avoidance of discussion about this phenomenon, and overly fantasist predictions about NFTs. Had NFTs existed in Seneca’s time, perhaps he would have coined the famous maxim attributed to him as “*Pompa NFTs magis terret, quam NFTs ipsa*”—it is the accompaniments of NFTs that are frightful rather than NFTs themselves.⁴

Not only people who read blogs and articles about this phenomenon outside the NFT market, but also important actors operating within the NFT market itself (i.e., artists who

develop NFT projects, intermediaries that enable these artists to advertise and sell their works, buyers, and those who want to add NFTs to their pre-existing or newly created collections.) have been confused. Answers to the questions such as what it means to own an NFT, what are the consequences of an NFT transaction for persons who buy, sell, intermediate a transaction, or for persons who are neither the party or the intermediary of that transaction but the creators or rights owners of an underlying asset of an NFT, have not been put forward in a clear and proper way.

However, NFT transactions have been ongoing, and legal disputes and discussions have quickly begun to arise. The first legal fields which evoked many questions regarding NFTs involved intellectual property law, criminal law, and property law. This is because NFTs, as a type of token, involves underlying works of art and therefore opening the way to many intellectual property and ownership related questions. In addition, the transactions take place in a rather unorthodox manner, using blockchain, crypto currencies, and crypto wallets often involving pseudonymous buyers and sellers (Wilson [2019] 2022; Lalla et al. 2023). Therefore, the transactions were considered to be prone to illegal activities such as fraud, manipulation, plagiarism schemes, insider trading schemes, phishing scams, and money laundering suspicions (Cyca 2022; Biggs 2022; Hoppe 2022; Schneider 2021; Tidy 2021). The number of questions to be discussed was large, and the legal basis of these disputes would be become a matter of curiosity.

A variety of evaluations have been made for NFTs, which made a rapid entry into the art world, about their positive and negative sides and their potential. Some displayed serious criticism and disbelief about NFTs (Morris 2021; Low 2023). Beckman envisioned a more optimistic and revolutionary situation and future for NFTs (Beckman 2021). Lee stated that the potential of NFTs is actually very high, so much that they can empower people to take more control of their lives (Lee 2023). Chuvaieva argued that NFTs are not so revolutionary after all, that many of the revolutionary results attributed to it are not from NFTs themselves, but as an extension of the disruptiveness of blockchain technology (Chuvaieva 2023). Some authors state that NFTs are operating highly satisfactory in some issues (such as transfers), but do not bring any revolutionary solutions to other issues (such as ownership), and that they were even dysfunctional (Chuvaieva 2023; Steiner 2021; Low 2023).

This author believes that the current state of NFTs does not bring a new revolution to our lives in 2023. But, with the development of use cases and the increase in regulations on the subject, NFTs have the potential to cause a paradigm shift in the long term, especially in issues such as artwork provenance, artwork ownership, and intellectual property management. In our opinion, if NFT use cases of 100 years later are NFT *sapiens* in terms of security, legal certainty, technological infrastructure capacities, the current ones are not yet at this level. Their development and ability to reach their latest evolutionary state in the interim remains to be seen. Inevitably, this is in direct proportion to the development of their adaptation and modification abilities.

Often, the point where we want technology to exist does not always show the current stage (Chuvaieva 2023; Tegmark 2017). And not knowing the present limits and actual working principles of a certain technology can lead to the result of not being able to correctly determine the legal problems that arise or that may arise. This results in the incapacity to solve the problems that require answers and regulations. Therefore, it is important to have (at least) basic knowledge in relevant branches in order to be able to examine issues affecting more than one branch of law.

The art market is a sensitive market with its own characteristics (Kaye and Speigler 2022; Wilson [2019] 2022) and it involves many actors from collectors to investors, auctioneers, curators, and taxpayers (Weil 1981). Furthermore, this market paves the way for many questions affecting many fields, including but not limited to, intellectual property law, contracts law, commercial law, international trade law, public law, public international law, private international law, human rights law, and tax law (Lerner and Bresler 2013; Gerstenblith 2012). In fact, this intertwining is not only limited to the fields of law, but also covers

art history, economics, history, anthropology, architecture, and increasingly omnipresent information technology-related disciplines and many others (Gerstenblith 2012).

In that context, art law emerges as a multi-interdisciplinary field that applies various legal rules to the sale, purchase, and many other transactions of (usually visual) art works, whether they take place as a private sale, in an auction, in a gallery, or another platform, while taking into account the unique dynamics of the sensitive art market (Lerner and Bresler 2013; Gerstenblith 2012). Art lawyers have been accustomed to keeping in mind an interdisciplinary cluster of legal and ethical questions (Weil 1981). Considering that technology is constantly advancing, and artists are exponentially benefiting from the opportunities provided by technology, it is clear that basic technology-related information must be included in this cluster of questions. Indeed, Sterpi states that the art lawyers of the future also need to be technology lawyers (Sterpi 2022). We agree with this view, and think it already holds true.

For these reasons, the title of this work refers to art law considerations. One reason for this preference is the belief that art lawyers are the most convenient professionals to holistically combine current market information, know-how, and legal knowledge for a healthy discussion about non-fungible tokens. Another reason is the belief that it is important to think about the concepts discussed in this work, such as terms and conditions of an NFT sale, art ownership, artwork authenticity, artwork provenance, filtered from the wholistic perspective of art law. We believe that this way, any considerations for NFTs, which is a concept located at the intersection of technology and art, will have a more substantial basis.

In this context, this article first aims to provide some definitions and important features relating to NFTs, in an attempt to clarify some of the above-mentioned misunderstandings and lack of information. Then, select issues surrounding NFTs which have important legal ramifications will be mentioned along with various legal resources and case law.

2. Definition of NFTs and Notion of Fungibility

The three-letter abbreviation, NFT, widely mentioned since 2021, stands for non-fungible tokens (Steiner 2021). It was mentioned so much in 2021 that the abbreviation was selected as the Collins Word of the Year 2021, beating the words “crypto” and “cheugy” (Guy 2021).⁵

A number of definitions have been made for non-fungible tokens. Collins itself defines them as “*abbreviation for non-fungible token: a unique digital certificate, registered in a blockchain, that is used to record ownership of an asset, such as an artwork or a collectible*” by highlighting their function of recording ownership.⁶ Another definition is that they are “*unique and secure ownership certificates that utilize smart contracts and are protected by blockchain technology*” (Çağlayan Aksoy and Özkan Üner 2021; Majocha 2021). Some authors highlight the uniqueness and function of NFTs in their definition, that they are unique blockchain records that can be used to identify another thing, such as digital content (Güçlütürk 2022; Koonce and Carron 2021; Mastropietro 2022). Similarly, Lee summarizes the non-fungible tokens by their function, by stating that “*NFTs are computer programs with unique identifiers called token IDs, recorded on blockchain to identify or represent things, such as artworks or just about anything.*” (Lee 2023); and Steiner provides the simple explanation that “*NFTs are digital ledger entries that identify or point to things, usually digital images or videos*” (Steiner 2021).

Some sources emphasize NFTs’ feature of being distinguishable as tokens in their definition for NFTs. Sterpi defines NFTs as “*digital tokens that have a very specific characterisation and are not replaceable.*” (Sterpi 2022). Sharma explains that “*Non-fungible tokens are assets that have been tokenized via a blockchain. They are assigned unique identification codes and metadata that distinguish them from other tokens*” (Sharma 2022). This feature of being distinguishable and not being able to be replaced by other non-fungible tokens explains the notion of non-fungibility.⁷ The adjective “*fungible*” roots back to the Latin verb *fungi*, which means “*to perform*” and shares the same root with the noun “*function*”.⁸ A thing is fungible if it can be replaced by something which is exactly the same kind: fiat money bills or cryp-

tokens are considered to be fungible because they all can be exchanged for the same counterpart without any practical differences (Koonce and Carron 2021; Beckman 2021; Sullivan 2021). However, the same is not true for the non-fungible tokens as their exchange with one another causes practical differences (Beckman 2021). Therefore, they are called non-fungible tokens.

We find that an often-cited quotation which is said (but not conclusively) to be of George Bernard Shaw is illuminating for grasping the notion of fungibility: “If you have an apple and I have an apple and we exchange apples, then you and I will still each have one apple. But if you have an idea and I have an idea, and we swap them, we will each have two ideas”.⁹ Apples are the fungible items in this comparison because trading one apple for another makes no difference. In the end, both people hold only one apple, without any practical difference. In the case of non-fungible tokens, if two people exchange them, both people will again have one NFT each, but they will be unique tokens, containing different encrypted data. Moreover, NFTs held by each person will have the unchangeable record of ownership of these two people, of which the order will be different for each person. This is because non-fungible tokens serve as a digital proof of these people’s holding¹⁰ of these NFTs (regardless of whatever rights are attached to this holding) and establish that this information is maintained on the blockchain (Okonkwo 2021; Drylewski and Levi 2022; Beckman 2021). Hence, an exchange of NFTs causes meaningful practical difference.

This article does not intend to provide a highly detailed technical background of the working mechanisms of NFTs or blockchain technology. However, an important difference we would like to put forward is the difference between on-chain and off-chain tokens. The word “chain” refers to blockchain in both terms. The fact that the data are distributed on small blocks on the blockchain creates storage problems and augmentation of costs¹¹ (Güçlütürk 2022; Guadamuz 2021b; Çağlayan Aksoy and Özkan Üner 2021). Writing directly on the blockchain is referred to as on-chain (Guadamuz 2021b; Güçlütürk 2022; Çağlayan Aksoy and Özkan Üner 2021). This method can be used for small sized content, considering the mentioned limitations (Güçlütürk 2022; Von Appen 2021).¹² Guadamuz refers to on-chain NFTs as truly native blockchain works which act more like true ownership of the work (Guadamuz 2021b). However, for lower costs and for storing bigger data, there are other methods which include not storing the content directly onto the blockchain, and the NFTs created with these methods are called off-chain NFTs (Güçlütürk 2022; Guadamuz 2021b; Çağlayan Aksoy and Özkan Üner 2021; Filorinalı 2022).¹³ This distinction is worth mentioning as it has security and capacity implications for NFT transfers.

No matter what method is used, it is very important to understand that in most cases, an NFT by itself is not the aimed asset or digital content; it is an indicator or a connector taking us to that asset or digital content (Sullivan 2021; Huertas and Hiki 2022; Guadamuz 2022). Even internalizing this fact is an important step to answer the most commonly asked question about NFTs: what it *really* means to have a non-fungible token (Beckman 2021; Guadamuz 2021c, 2022; Sullivan 2021; Wilson [2019] 2022).

3. Select Legal Issues and Discussions

With the emergence of NFTs, many questions have arisen in numerous particular fields, such as contracts law, criminal law, property law, intellectual property law, international private law, securities law, and tax law. In addition, discussions relating to tokens (which are the closest supergroup of NFTs) and crypto assets (a larger supergroup) have accelerated, along with regulatory attempts from states and international organs. UNIDROIT Principles on Digital Assets and Private Law, adopted on 10 May 2023 at the 102nd Session of the Governing Council, which provides legislative guidance and best practices for digital asset transactions and guides on private international law, procedural law including enforcement and insolvency, is one example of these efforts.¹⁴

The fact that NFTs cause all these brainstorms makes it unfortunately impossible for one article to cover all legal aspects. Nevertheless, in the following sections, we will briefly cover some of the most interesting legal points in our opinion. It is especially avoided to

enter detailed discussions in the field of intellectual property at length, both because there are many satisfactory works on the intellectual property law implications of NFTs, and because the scope of these discussions is very large.¹⁵

3.1. Legal Terms and Conditions of an NFT Transaction

The question that came up at the end of the second chapter, namely, what it means to have an NFT, is one of the most fundamental legal questions relating to NFTs. Answering this question requires a good understanding of contracts and intellectual property law. More specifically, understanding the scope of licences relating to the underlying content acquired with the purchase of the NFT is crucial. At the most basic level, purchasing an NFT provides the purchaser the capacity to prove that one owns it, benefit from any particular advantages offered by the seller (such as being admitted to an event), transfer the NFT to other accounts, and to burn¹⁶ it (Steiner 2021).

If an NFT is linked to an underlying content which is a work of art (such as a physical painting or a digital art piece), the author of that artwork maintains their exclusive rights to reproduce, control the adaptations of, publish, display, and perform in public that artwork, unless those rights are transferred or licensed (Lerner and Bresler 2013). Thus, the purchase of an NFT does not necessarily provide the purchaser all rights of the underlying artwork completely (Lalla et al. 2023; Guadamuz 2021a, 2021b; Steiner 2021; Çağlayan Aksoy and Özkan Üner 2021; Sullivan 2021; Hambraeus 2021). Therefore, carefully reading the terms and conditions¹⁷ for the sale of an NFT and understanding their scope is of utmost importance, reminding the buyers the olden principle *caveat emptor*¹⁸ (Lerner et al. 2022).

This diligence must be shown not only by the purchasers. Similarly, one must be very careful about any past licences or transfers of other rights of an artwork. If one had licensed some rights of an artwork years ago, the licensor or the transferee can now attempt to mint NFTs based on that artwork. The question of who holds the rights for minting and selling NFTs using the video footages of the famous film *Pulp Fiction* was at the heart of the dispute between Quentin Tarantino and Miramax, which was later settled.¹⁹ In that dispute, there were a series of agreements concluded between Quentin Tarantino and Miramax which contained clauses for the scope of licences and transfers of the rights related to the movie *Pulp Fiction*. However, these agreements were dated 1993, much before today's technological advancements. During the course of the dispute, both parties were trying to interpret to their benefit whether the wording "publications" included NFTs or not.²⁰ Therefore, it is wise for all persons and establishments to beware of their existing licence and transfer agreements, and provide extra attention to the wording of their agreements while drafting those agreements.

There are several marketplaces for non-fungible tokens, which advertise, promote, and intermediate NFT transactions (Beckman 2021). Also, major galleries and auction houses such as Christie's, Phillips, and Sotheby's engage in NFT sales. Although in the past, some NFT creators such as Larva Labs, creator of Cryptopunks did not provide written licence terms, currently many of these marketplaces publish the terms and conditions for the purchase of the NFTs (Steiner 2021; Sullivan 2021). Carefully analysing these terms and conditions is essential for being diligent in an NFT purchase.

Apart from the importance of analysing these terms and conditions thoroughly, it is also a matter of debate whether these terms and conditions are legally correct. As Steiner explains, some of the wordings in these terms and conditions do not adequately reflect the unique characterization of NFTs and are written in a way that is commonly used for other art works or digital artworks. This paints a problematic picture of what rights are granted to the purchasers of the NFT (Steiner 2021). In addition, in most jurisdictions, transfer of copyright ownership requires a written and signed contract, and it may be questionable whether the terms and conditions present in a website or the metadata of the NFT itself meet the written and signed contract requirement, although electronic signatures have begun to satisfy some courts and governmental agencies to legally bind the copyright owner (Steiner 2021).

If there is no express licence granted with a contract, there might be an implied licence granted to the owner of the NFT to use the underlying artwork, which allows the purchaser to use the NFT for non-commercial, personal purposes (Steiner 2021). Although this question has not been answered by any courts yet, Steiner expected that any implied licence to be recognized by courts for NFT purchasers might include right to display the underlying artwork for non-commercial purposes (Steiner 2021).

Thus, if a written express licence provides very few rights to the NFT buyer, or if the law recognizes an implied licence for NFT purchasers, which turns out to be limited, then owning an NFT can mean as little as only having that NFT in a crypto wallet. While this might seem odd, authors explain that what one actually pays for when one purchases an NFT is “bragging rights” for the owner (Okonkwo 2021; Chen and Friedmann 2022). Beckman explains this phenomenon as “you buy the fact that you have bought the NFT” (Beckman 2021; Steiner 2021). Steiner qualifies these bragging rights as “Veblenesque bragging rights” (Steiner 2021). This is an analogy that explain very well that, even if they do not gain much in the legal sense, NFT purchasers may prefer to purchase NFTs, because they see a value.

3.2. Legal Qualifications of Non-Fungible Tokens

While working on any concept, legal professionals as a reflex first attempt to lay out the definition and function of the concept, and then to determine what legal classification that concept belongs to. For NFTs, we briefly covered various definitions and their function in Section 2. However, answering the question of how NFTs are legally qualified is not easy, although it has important consequences (Salmon and von Gerlach 2021).

Indeed, legal qualification is important. For example, if, in the sense of property law, NFTs (and other crypto assets) are defined as personal property, then they benefit from the rights of specific personal property (Bilgili and Cengil 2022). For example, in many jurisdictions, in order for the crime of theft to occur, there should be *actus reus* of taking of a property belonging to someone else.²¹ If the item in question is not defined as property, then the crime of theft will not occur. A similar chain of cause and effect is linked to the debate over whether NFTs classify as securities, which is a long-discussed question, particularly in the United States. If they are considered as security, they will be subject to serious and complex financial regulations, and cases involving NFTs will be shaped according to this definition (Lee 2023; Vander Woude and Tan 2022; Chittum 2022).

A good example illustrating the importance of legal classification of concepts was the Open Sea incident involving Nathaniel Chastain, where it was discussed that the acts of Chastain (namely, choosing certain NFTs to be displayed on Open Sea’s front page which was kept secret from others until the publication of the website, using this secret information to purchase NFTs beforehand that would increase in value after the featuring of NFTs on the front page, and reselling those NFTs at huge profits) would qualify as *actus reus* for the crime of insider trading (U.S. Attorney’s Office, Southern District of New York 2022). Under United States law, the offense of insider trading occurs when the *actus reus* involve securities. Therefore, the case progressed with the offense of wire fraud, which did not require an *actus reus* involving securities.²²

For these reasons, it is important to have a definition, despite how difficult the process is. That definition will shed light on how to solve complex questions relating to the ownership, possession, transfer, theft, and securitization of non-fungible tokens (Çağlayan Aksoy 2023). Surely, this is not an easy task, as understanding rapidly developing technological concepts and providing precise definitions is not always easy. Because it takes time to understand the technological concept, the market and the behaviour of the actors, and legal regulations may sometimes lag in this (Low 2023; Beckman 2021). Some regulators have even verbalized that regulation efforts in the face of such developments are particularly slow (Gofort 2018). Nevertheless, discussions and academic work relating to these questions will facilitate resolving this question and having a better foundation for other legal issues.

In this section, we briefly mention conceptual problems about the definitions of NFTs and their classification as property and securities.

3.2.1. Non-Fungible Tokens and Their Property Status

The analysis of the notion property is a complex and multi-layered matter, and different legal systems adopt diverse approaches and definitions (Çağlayan Aksoy 2023; Low and Hara 2022). The distinction between common law and civil law systems emerges both in terms of regulation style and welcoming new concepts in relation to the notion of property (Low and Hara 2022). Civil law jurisdictions tend to have clear and distinct vocabulary for the concept of property, whereas common law jurisdictions usually do not have specific vocabulary defined in a code, but rather leave the qualification issues to court decisions (Lee 2023; Low and Hara 2022). The basic principles of property law for both legal systems date back to many years and are based on a deep-rooted legal history. Therefore, those basic principles were not actually designed in a way to comprehend today's technological products with one hundred percent compatibility (Çağlayan Aksoy 2023).

Therefore, thinking on the concept of property, an already complicated issue, becomes even more complex when it comes to adding crypto assets to this exercise (Çağlayan Aksoy 2023). One of the main reasons for this is that crypto assets, as assets in the digital realm, do not have tangibility, or physical presence, which is a criterion for defining a thing as property in most jurisdictions²³ (Çağlayan Aksoy 2023; Von Appen 2021). While these kinds of non-compatibility come as a serious hurdle in some civil countries such as Germany (Von Appen 2021); common law jurisdictions have been more welcoming to accept crypto assets as a type of property for some time, even though they are intangible (Low and Hara 2022; Beckman 2021).²⁴

However, the analytical problems do not practically resolve with deciding to have a welcoming approach. Being welcoming to accept crypto assets as a type of property is one thing, but the real question is to decide on how to accept crypto assets as a type of property. For instance, the consultation paper of the Law Commission of England Wales relating to digital assets proposed to add a third category to existing sub-categories *chose in action* and *chose in possession* to solve this fitting problem.²⁵ This dual property sub-categorization was present in English law for a long time, with Lord Justice Joseph Fry's reasoning in *Colonial Bank v. Whinney*, which concludes that "All personal things are either in possession or action. The law knows no tertium quid between the two".

We think that the assessment of the Law Commission for changing this long-used categorization is a positive and proactive effort. Despite the difficulty and the amount of academic work required for resolving all questions, this approach can serve to make a better definition which can be a more ideal fit of the true nature of crypto assets. However, Low for instance, finds that finding a *tertium quid* is not necessary and particularly useful, since crypto assets can also be considered under the already existing sub-category, *chose in action* (Low 2023). He explains that when the technical aspects of crypto assets and the historical, legal, and circumstantial reasons for the absence of a *tertium quid* are thoroughly understood, it will be clear that adding a *tertium quid* is not necessary (Low 2023).

Another practical approach came from UNIDROIT Principles on Digital Assets and Private Law adopted in 10 May 2023. These principles accepted that digital assets are "susceptible to being the subject of proprietary rights", without addressing whether they are considered "property" under the law of a State".²⁶ This approach reflects the need for practical solutions without spending too much time on the convoluted property classes discussions. However, this approach does not solve the issue once and for all, leaving the national jurisdictions to take care of the practical matters separately.

The real success of a legislator is not to constantly add to existing rules, rather, to make good use of the existing rules.²⁷ Therefore, having a legal framework that allows to interpret new technologies within the existing rules, but not avoiding producing new definitions when harmonization cannot be achieved comes across as an advantageous

approach. Achieving this depends on the speed of adaptation and the intensity of the academic work in this area.

Although accepting NFTs as a type of property has not become the rule, in the last three years, there have been several injunction decisions for cases involving non-fungible tokens in various jurisdictions. In some of these decisions, courts have analysed the existing property definitions in their jurisdiction and usually came to a *prima facie* conclusion that non-fungible tokens can be classified as property.²⁸ It will be exciting to see how these definitions fit and settle in each jurisdiction over time.

3.2.2. The Securities Polemic: Are NFTs Securities?

Another definitional problem is whether NFTs qualify as securities or commodities (Chuvaieva 2023; Beckman 2021; Çağlayan Aksoy and Özkan Üner 2021; Von Appen 2021; Barbagallo 2022). This is a heavily debated discussion which is not yet settled but introduces new proposals and discussions constantly (Von Appen 2021; Henderson and Raskin 2018).

The methods of classifying assets as securities also vary among jurisdictions. Some regulations such as the European Union approach applies a formalistic approach, which analyses the fit of an asset to criteria of transferability, tradability on capital markets, standardization as established in Markets in Financial Instruments Directive II and material comparability with a typical security class (Von Appen 2021). The United States utilizes the *Howey* test, which searches for the investment of money in a common enterprise where profits are expected to derive from the efforts of the promoter or another third party (Drylewski and Levi 2022; Lee 2023; Von Appen 2021).²⁹

The first stimulating point in this discussion is that while commodities generally are fungible, NFTs are not (Beckman 2021). Therefore, if it is accepted that fungibility is a core characteristic of a financial services products (such as stocks or bonds), then NFTs would remain outside this scope. For instance, the United Kingdom His Majesty's Treasury concluded in its consultation that fungibility is a core characteristic of a range of regulated financial services products and is more likely to raise consumer protection concerns.³⁰ The paper then concluded that non-fungible tokens are "*more akin to a digital collector item than financial services products*" as their sale "*depends on the utility or unique value it gives the holder*". Considering the functions of non-fungible tokens, some authors agree with the idea that non-fungible tokens are unique ownership indicators of some tangible or digital items, and therefore should not be considered as securities (Von Appen 2021; Beckman 2021). However, some authors also underline that in cases where the NFTs are used with an investment aim, then there is a utilization that is more akin to securities³¹ (Von Appen 2021; Barbagallo 2022; Wilson [2019] 2022; McAndrew 2010; Gatto and Walter 2022; Schickler and Handagama 2023). Some examples provided for these uses by these authors are: where the purchasers focus on the investment value and the future gains instead of the ownership of a unique item; where there are fractionalized³² NFTs involved or where several items are pooled into a single NFT.

As explained above, classification of NFTs as securities is not quite straightforward, because there is no one-use-fits-it-all use case of the NFTs. Therefore, we agree with the authors who state that the courts will be most likely to solve this question by a case-by-case analysis (Beckman 2021; Castle 2022; Drylewski and Levi 2022). A final regulatory approach would be after the accumulation of these case-by-case analyses, with the creation of NFT sub-categories according to their function and differentiation of to what sub-categories securities rules will apply.

3.3. NFTs and Their Effect to Highlighted Art Law Concepts

As much as there are debates relating to NFTs, it is indeed true that some aspects of the NFTs influence the current state of the art market and will result in changes. In this section, we will mention NFT's select effects on important issues relating to the popular issues and important actors in art law. While we support the idea that while it is not purely

NFTs which are the source reason of many of these changes (rather, it is the features and capacities of the blockchain technology) (Chuvaieva 2023), there is no reason to deny that NFTs currently are the embodiment and the indicator of these changes.³³ This is ironically parallel with their function of indicating another item.

3.3.1. Artwork Ownership and NFTs

Ownership of an artwork is a complicated issue which involves questions of good title, and any potential theft, the situation of the good faith buyer in private art transactions (Lee 2023; Wilson [2019] 2022). In addition, from an international perspective, it is also in the centre of the debated cultural property and cultural heritage items (Wilson [2019] 2022; Roehrenbeck 2010; Merryman 1986). The presence of ownership in legal terms both in civil law and common law jurisdictions is usually confirmed by two criteria: control and exclusion (Lee 2023; Low 2023; Von Appen 2021). The technology behind NFTs allows the NFTs to satisfy both criteria (Von Schlenhenried 2022; Çağlayan Aksoy and Özkan Üner 2021).

Since the emergence of the high interest for the NFTs, it was stated that NFTs will change the concept of art ownership (Beckman 2021; Von Appen 2021; Harfoush 2021). This hype is linked to the nature of digital art especially, since an indicator of ownership and a secured transfer method for digital artworks did not exist before, to the detriment of digital artists (Kasdan 2022; Kugler 2021). Moreover, if the records relating to the change in ownership for an artwork is non-existent or not reliable, it can be difficult to demonstrate the ownership of a work (Okonkwo 2021). However, with NFTS, especially for on-chain NFTs where the digital artwork in its entirety is stored on the blockchain, stating that one owns that NFT is easier than traditional digital art works (Guadamuz 2021b).

In addition to their capacity of proving ownership thanks to their technical features, NFTs also make room for different perspectives for ownership. This is because NFT communities have particular dynamics within themselves. These dynamics open the door for innovative practices. One example is the popularization of NFTs for proving fractionalized art ownership, where one NFT can be partly owned by several people (McAndrew 2022). This practice provides a contrast to traditional art ownership and demonstrates that the concept of ownership is not only changing technically, but also from within the users' point of view. Hence, the legal rules around the issue of ownership might adapt to these innovative practices. For instance, Lee remarks that the exclusion criterion sought for determining the concept of ownership will now change to "inclusion" in NFT communities (Lee 2023). It is to be seen in the future how these innovative practices will be settled and reflected in legal regulation.

3.3.2. Artwork Authenticity and NFTs

A quality that directly determines the value of artwork is the authenticity of the artwork (Holmes 2021; Von Habsburg et al. 2010; Goodman 1996). A work is deemed to be authentic if it reflects where, how, when, and by whom it was created.³⁴ Benjamin states that the authenticity of a work is a whole concept including both the original physical changes that the work has undergone over time that no copy thereof will have undergone, and the changes in the ownership of the work, which constitutes the traditional background of the work (Benjamin 2008). In this sense, authenticity of the work emerges as a situational concept (Wilson [2019] 2022). The more original connection an artwork has with its original creator, the more valuable is the work (Holmes 2021; Von Habsburg et al. 2010; Goodman 1996).

Artwork authenticity is proved through technical and physical examinations, analysis of aesthetic styles, and various documentation (Wilson [2019] 2022; Lerner and Bresler 2013). If an artwork is deemed to be authentic, this is verified by documents called "authenticity certificates". These certificates are created by the author himself, an expert on the subject or another relevant authority (Wilson [2019] 2022). Receiving and keeping these certificates is strongly recommended for art buyers (Von Habsburg et al. 2010). However sometimes, even with the best authenticity certificate, the risk of an artwork being counterfeit cannot

be ruled out (Beckman 2021). This is a serious concern in today's art markets (Beckman 2021; Von Appen 2021). Because fake art works can be created by methods such as the continuation of a work started by the original author by someone who can imitate the style, the existence of people who can imitate a work at a very good level like the original author, and the convincing use of an artist's signature style, manner, and expression (Lerner and Bresler 2013). Naturally, fakes and counterfeits are damaging for the buyers. Especially digital art is said to pose many challenges to authenticity, due to their dissipative nature, where one can easily copy and benefit from the original work of a digital artist (Kasdan 2022; Von Appen 2021; Von Habsburg et al. 2010).

Among these challenges, the potential of blockchain technology, that is, the ability of blockchain to keep the immutable records of authenticity and provenance of an artwork, has created a stir in the art world (Wilson [2019] 2022). In particular, it has been stated that digital artworks which can be easily copied will benefit greatly from blockchain technology (Wilson [2019] 2022). These questions have gained a new dimension with the emergence of NFTs. The potential of NFTs in this regard has been highlighted as one of the strengths of NFTs (Beckman 2021).

For example, if a digital artist initially reveals her work in connection with an NFT, then doubts about the original creator of the artwork will be minimized (Kasdan 2022; Beckman 2021). Similarly, artists who create physical artwork will be able to mint an NFT associated with their work and add information about that artwork to that NFT's metadata. Thus, in both cases, NFTs will actually act as a kind of authenticity certificate and can be used to further transfer the artwork. In this way, the possibility of fake artworks will be prevented relatively more successfully (Beckman 2021). Of course, these will not apply in cases where the person minting an NFT is not the original creator of the work (Okonkwo 2021; Lerner et al. 2022). In addition, one must always pay utmost attention for scams, hacking, and forgeries, at least for the current state of the NFT market (Lerner et al. 2022; Von Appen 2021). However, as the use of NFTs as certificates of authenticity by the author themselves become established practice, authenticity concerns will be kept to a minimum, at least in newer works, thanks to NFTs.

3.3.3. Artwork Provenance and NFTs

Another factor that contributes to the attractiveness, therefore the value, of an artwork is the provenance of the artwork (Wilson [2019] 2022; Von Habsburg et al. 2010). While the term provenance may refer both to the origins of an artwork³⁵ and the history of ownership of an artwork, generally it is commonly understood as the chain of ownership of an artwork (Wilson [2019] 2022; Beckman 2021). Starting from the 17th century, various information gathered from artwork sale records, be it private sales or auction sales, were recorded in the form of physical provenance records, which demonstrate the chain of ownership of an artwork, and by the 20th century, the practice became common (Jaffé 1996; Tompkins 2020; Goodman 1996).

Although provenance records are similar to certificates of authenticity, as they are also made by experts and are important for the transaction of the artwork, they are actually more comprehensive than certificates of authenticity (Tompkins 2020). This is because while authenticity records only reveal the relationship of the work with its creator, provenance records ideally reveal a picture of who has owned the work from the moment it left the hands of the creator (Wilson [2019] 2022; Goodman 1996). In this way, information about who had purchased that work under what conditions and how it had been transferred are also obtained (Amineddoleh 2020). This not only creates a legal basis for various disputes that may arise, such as the repatriation of works of art, but can also increase the value of the artwork (Wilson [2019] 2022; Amineddoleh 2020). The fact that something had been owned before, especially by an important person, can increase the value of the work in some instances³⁶ (Von Habsburg et al. 2010).

No matter how carefully they are kept, provenance records also do not always have perfect credibility (Tompkins 2020; Jaffé 1996). Sometimes, there are gaps that do not close

between the records. In addition, there are also forged provenance records which mislead parties (Wilson [2019] 2022; Tompkins 2020; Jaffé 1996). Although provenance researching is a serious researching field with many experts and institutions involved, lack of information or reliability are not always quickly solved (Amineddoleh 2020; Wilson [2019] 2022; Tompkins 2020).

This is where the excitement about the way new technologies can change the notion of provenance makes sense (Nayeri 2023; Wilson [2019] 2022; Beckman 2021). NFTs reveal the importance of provenance as well as change the meaning of art ownership. Those who are familiar with blockchain technology and provenance records are able to understand why NFTs have received a lot of excitement. This is because, thanks to NFTs, provenance records for artworks will be able to be kept immutable and secure on the blockchain without any gaps (Wilson [2019] 2022; Beckman 2021). Once one purchases an NFT, in a way, one purchases the opportunity to be added on the chain of ownership of that NFT, which becomes a part of the sale (Beckman 2021).

Thus, thanks to the nature of blockchain, NFTs have the potential to solve problems commonly faced with provenance records, such as the inevitability of fabricated or undocumented provenance information (Wilson [2019] 2022; Beckman 2021; Tompkins 2020; Jaffé 1996). This potential of course is valid where there are no hacking or security problems inherent to the NFTs and exclude the instances where the minter of an NFT is not the rights holder for an underlying (digital or physical) artwork. If a framework exists where only the creator of an artwork (or another authorized party) mints an NFT linked to that artwork, then the said NFT acts as a truly immutable and a gap-free provenance certificate.

3.3.4. Intermediary Liability for NFT Sales

NFT transactions take place in specific marketplaces or platforms of established galleries or auction houses (Beckman 2021). The importance of the terms and conditions for an NFT transaction was mentioned in Section 3.1. These terms are important not only for governing the relationship between the purchaser and the seller, but also for understanding the scope of liability of the intermediary of that transaction.

Determining the scope of the liability of the intermediary for an NFT transaction works in various ways: the purchaser and the seller will want to protect themselves and resort to the intermediary in case of an inadequacy thereof, the intermediary will want to protect itself, and in case there is a violation committed for a third party (such as an artist whose artwork was unauthorizedly used for minting and selling an NFT and whose intellectual property rights are thus infringed), the third party whose rights were violated will want to invoke the liability of all parties concerned, including the intermediary (Okonkwo 2021). In this respect, it is necessary to make various contract law (with emphasis on issues such as breach of duty of care and misrepresentation) and intellectual property law determinations for all parties concerned (Okonkwo 2021).

In the art market, intermediaries such as galleries or auction houses draft provisions in terms and conditions to specifically protect themselves against other parties of that transaction (Wilson [2019] 2022; Okonkwo 2021). However, considering the basic principles of consumer law, which aims to protect the consumer, it should be taken into account that not all of these provisions may be unconditionally valid. Indeed, if such provisions are found to be “overprotective” for intermediaries contrary to fundamental legal principles, it may result in such provisions being void or voidable (Okonkwo 2021). Moreover, in many jurisdictions, if the loss arises from the negligence of the intermediary, then neither disclaimers nor limitation of liability clauses will provide relief from liability (Wilson [2019] 2022; Okonkwo 2021).

There have been two interesting disputes where the liability of an intermediary came to the fore. For the relationship between the parties of an NFT transaction, a case where the liability of an auction house concerned the first NFT ever minted, Quantum by Kevin McCoy, in *Free Holdings Inc. v. Kevin McCoy, Sotheby's Inc., Nameless Corporation and Alex Amsel* raised interesting questions.³⁷ (Escalante-de Mattei 2023). In this complicated case, the NFT

in question was sold in Sotheby's auction on 10 June 2021.³⁸ The claimant Free Holdings qualified the description provided by Sotheby's as false and misleading and objected to the condition report provided on Sotheby's website.³⁹ This incident made the authors rethink the condition reports provided by intermediaries. The auction houses generally sell the lots "as is" as they do not want to assume liability for the condition of the artwork, generally they provide a note called "condition report" describing the current condition of the artwork (Wilson [2019] 2022). This condition report naturally tends to have many clauses pertaining to exclude liability of the intermediary (Wilson [2019] 2022). Although the plaintiff's claims were dismissed by United States Magistrate Judge James L. Cott on 17 March 2023,⁴⁰ and the judge did not make any further comments on the potential liability that would arise from Sotheby's contested condition report, this case was an interesting beginning to think about the liability of intermediaries through condition reports.

Another case analysed the liability of an intermediary for infringement of the rights of a third party, outside the parties of the NFT transaction. In the Chinese case *Shenzhen Qice Diechu Cultural Creativity Co., Ltd. v Hangzhou Yuanyuzhou Technology Co., Ltd.*, a Chinese court found that an NFT platform is liable for the copyright infringement as it contributorily violated the copyright holder's rights of the illustration series "I am Not a Fat Tiger" from which an NFT was minted and sold.⁴¹ The court found that the platform on which the NFT was sold had subjective culpability, because it breached its duties of inspection and attention as a trading service provider for NFT purchases (Gang 2022).

Although some intermediaries have a more sensitive approach, many NFT platforms do not have an automatic audit system where each NFT on the platform is checked whether they involve in an intellectual property infringement (Okonkwo 2021). Such situations are problematic for rights holders. For now, two solutions seem to have been found in the NFT markets: the first one is the platforms publishing a Code of Conduct for users, which involve various limitations of liability clauses therein for themselves.⁴² However, as mentioned above, the validity and the functionality of those clauses are debatable (Wilson [2019] 2022). Especially, they might not be sufficient to protect the NFT marketplaces from liability, as evidenced by the *Shenzhen Qice* case. The second solution is the platforms acting cooperatively by removing infringing NFTs from their platforms in accordance with the notice and take down rule that exists in many jurisdictions (Yash 2022; Okonkwo 2021). Nevertheless, this approach is also controversial. There are thousands of NFTs in many platforms, and an anonymous, right-infringing NFT minter may put an unauthorized NFT on a market, sell it, take the financial gain, and vanish, until a notification is executed.⁴³

Intermediary liability for NFT platforms is an interesting aspect to think about, as it involves thinking about fundamental rules of consumer law, commercial law, and contracts law in the context of art law. As other disputes and court decisions come, it will be better understood which actions invoke intermediary liability and to what extent.

4. Conclusions

Non-fungible tokens, albeit disputable as to whether they are as disruptive as they were imagined to be, require a rethinking of established concepts and frameworks. While their future (if not present) is uncertain, it is critical to discern the potential bubble burst and the long-term possibilities of the underlying technology. NFT's purview extends beyond art to a wide range of disciplines. We agree with the opinion that, even if the interest in highly priced digital art NFT fades, their larger applications promise long-term importance (Resch 2022; McAndrew 2023)⁴⁴. We evaluate that NFTs are an inventive tool with widespread implications, capable of shaping various industries. Their future shape and lifespan however will depend on technological improvements (especially in cybersecurity and data storage areas) and legal adaptation.

To comprehend the trajectory of the NFTs, one must go beyond the present and evaluate the long-term potential and repercussions. This is a difficult task, as it necessitates avoiding having "technological myopia"⁴⁵ on one hand and being realistic on the other. However, especially in the legal sector, lawyers who have a good understanding of the law and

can apply established principles coupled with an adequate understanding of the technicalities surrounding the topic will leave their marks on this rather pristine area (Hambraeus 2021). What a decade it is indeed, to be an art lawyer (Valentin and Yapova 2022).

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Notes

- ¹ See Chuvaieva (2023) for the historical background of Kevin McCoy's Quantum, the first-ever minted non-fungible token on the Namecoin blockchain.
- ² See Sterpi (2022), who explains that the concepts of art and technology, which both were expressed once with the old Greek word "techné", result from creative acts at the origin. He explains that these two concepts, which have been historically separated are returning to a more unitary state in our age due to the increasing use of technology in artistic creation.
- ³ See Çağlayan Aksoy (2023) for further concise explanations regarding these terms.
- ⁴ The Latin maxim "*Pompa mortis magis terret, quam mors ipsa*" attributed to Seneca which translates as "It is the accompaniments of death that are frightful rather than death itself". See Bacon, Francis. *Essays, Civil and Moral*. Vol. III, Part 1, 2 of Death, The Harvard Classics. New York: P.F. Collier & Son, 1909–14; Bartleby.com, 2001. www.bartleby.com/3/1/, accessed on 25 August 2023.
- ⁵ Collins' lexicographers stated that the reason for choosing NFTs as the "Word of the Year" was that NFT "*demonstrated a unique technicolour collision of art, technology and commerce*" which had "*broken through the Covid noise*" to become ubiquitous. The Word of the Year of 2020 was Lockdown. See Flood (2021) and Guy (2021).
- ⁶ Collins Dictionary, <https://www.collinsdictionary.com/woty>, accessed on 30 August 2023; Collins Dictionary, <https://www.collinsdictionary.com/dictionary/english/nft>, accessed on 30 August 2023.
- ⁷ The fungibility of a token depends on the standard that is used by the smart contract on the blockchain of the NFT. See Çağlayan Aksoy and Özkan Üner (2021); Guadamuz (2021b).
- ⁸ Online Etymology Dictionary, "Fungible", <https://www.etymonline.com/word/fungible>, accessed on 5 June 2023.
- ⁹ While commonly attributed to George Bernard Shaw, the true authorship of the quote is not definitively established. For further information on its origins and analysis, you can refer to the following link: [<https://quoteinvestigator.com/2011/12/13/swap-ideas/>], accessed on 30 August 2023.
- ¹⁰ We use the term "*holding*" here deliberately to avoid the commonly used expressions, which state readily that NFTs serve as a "*proof of ownership*" of the underlying work of art on the blockchain or may infer that buying an NFT by itself provides the buyer all rights relating to that NFTs. Both expressions may not always be true. Very briefly, because the minter of an NFT is not always the person who is the author or the rights holder of the underlying item (be it a physical object or a digital artwork), and that it is not always very clear what rights the buyers obtain when they purchase an NFT. See (Lee 2023; Steiner 2021; Steiner 2022; Chuvaieva 2023).
- ¹¹ Andres Guadamuz cites and summarizes Gavin Wood's Ethereum: A Secure Decentralised Generalised Transaction Ledger EIP Revision, which can be accessed at [<http://gavwood.com/paper.pdf>], accessed on 30 August 2023. Accordingly, uploading one kilobyte of data on the Ethereum blockchain costs 640 k gas, which is around USD 13.61 per kilobyte. The cost grows exponentially as the volume of data to be uploaded grows. For example, adding one megabyte to the Ethereum blockchain would cost around USD 475. See Guadamuz (2021c).
- ¹² For instance, some Cryptopunk images were stored on chain as they did not require too much space or cost, being 24 × 24 pixels images. See On-chain Cryptopunks. Larvalabs. Available online: <https://www.larvalabs.com/blog/2021-8-18-18-0/on-chain-cryptopunks>, accessed on 30 August 2023. See also Steiner (2022).
- ¹³ See Güçlütürk (2022) for detailed explanations relating to different methods which include the NFTs saving a hash of a content and NFTs using decentralized storing tools such as IPFS (Interplanetary File System).
- ¹⁴ See <https://www.unidroit.org/unidroit-principles-on-digital-assets-and-private-law-adopted-at-the-102nd-session-of-the-governing-council/>, accessed on 30 August 2023.
- ¹⁵ For interesting discussions relating to NFTs and intellectual property law, see Steiner (2022); Guadamuz (2021a, 2021b, 2021c, 2022); Çağlayan Aksoy and Özkan Üner (2021); Steiner (2021); Beckman (2021).
- ¹⁶ The NFTs are recorded on the blockchain, and blockchain records are immutable. Therefore, it is not possible to change or remove the non-fungible tokens on the blockchain once it is minted. Burning refers to the process of restricting the access to the particular non fungible token, by sending it to a digital wallet address that is not owned or utilized by another. See NFTEExplained.info, "*What is Burning an NFT? A Complete Guide and Explanation*" <https://nftexplained.info/what-is-burning-an-nft-a-complete-guide-and-explanation>; Çağlayan Aksoy and Özkan Üner (2021).

- 17 The first episode titled “*Joan is Awful*” of Season 6 of the Netflix series Black Mirror depicts perfectly why the terms and conditions must indeed be read very carefully, for all transactions in general.
- 18 *Caveat emptor*, which means “*Let the buyer beware*” in Latin, is a condensed form of the phrase “*Caveat emptor, quia ignorare non debuit quod jus alienum emit*” which means “*Let a buyer beware, for he should not be ignorant of the nature of the property he is purchasing from another party*”. Within common law nations, this principle had been commonly employed in contract law. This principle, however, is no longer primarily relied upon since consumer legislation has developed and attempts have been taken to protect customers from the detrimental effects of knowledge asymmetry. *Caveat venditor* is the counterpart for sellers. More information may be found in Julia Kagan’s essay “*Caveat Emptor (Buyer Beware): What It Is, and What Replaced It*” (<https://www.investopedia.com/terms/c/caveatemptor.asp>), which was accessed on 1 September 2022.
- 19 Miramax deposited their notice of settlement on 8 September 2022. See Justia, Dockets & Filings, <https://dockets.justia.com/docket/california/cacdce/2:2021cv08979/836944> for the filing history, accessed on 30 August 2023.
- 20 For being informed about the procedural history of the case, see *Miramax LLC v. Quentin Tarantino; Visiona Romantica* Complaint at <https://deadline.com/wp-content/uploads/2021/11/TARANTINO-LAWSUIT.pdf>, accessed on 30 August 2023.
- 21 Some jurisdictions prefer the concept of ownership to define theft. For instance, the French penal code defines theft as “*the fraudulent appropriation of a thing belonging to another person*”. Whereas some jurisdictions use the concept of “*property*”. For instance, the UK Theft Act 1968 defines theft as “*dishonestly appropriating property belonging to another with the intention of permanently depriving the other of it*”.
- 22 For further explanations from the US Department of Justice, see [U.S. Attorney’s Office, Southern District of New York \(2022\)](#).
- 23 For instance, in the Swiss and Turkish jurisdictions, there is no definite definition of a property. Rather, criteria which are commonly cited in the doctrine (with some discussions) are materiality (*Körperlichkeit*), specificity (*Abgegrenztheit*), eligibility for dominance (*Beherrschbarkeit*) and impersonality (*Unpersönlichkeit*) are used as indicia. As for the UK, the indicia are stated in the case *National Provincial Bank Ltd. v. Ainsworth* as being identifiable by third parties, being capable of assumption by third parties and a degree of permanence and stability.
- 24 See the UK cases *AA v Persons Unknown, Director of Public Prosecutions v Briedis & Anor, and Fetch.ai Ltd. and Another v Persons Unknown Category A and Others*; New Zealand High Court decision *David Ian Ruscoe And Malcolm Russell Moore v Cryptopia Limited* and the recent 2023 Hong Kong decision *Re Gatecoin Limited* where courts accepted cryptocurrencies as a type of property.
- 25 Law Commission, <https://www.lawcom.gov.uk/project/digital-assets/>, accessed on 30 August 2023; Law Commission, “*Digital Assets: Summary of consultation paper*”, <https://s3-eu-west-2.amazonaws.com/lawcomprod-storage-11jsxou24uy7q/uploads/2022/07/Digital-Assets-Summary-Paper-Law-Commission-1.pdf>, accessed on 30 August 2023.
- 26 This principle takes place on UNIDROIT Principles, Introduction, IV Core Concepts, 14.
- 27 “*Corruptissima re publica plurimae leges*” (“*The most corrupt state is the one with the most laws*”) is a maxim of the Roman senator and lawyer Tacitus, which underlines that the high increase in the number of laws, proving to be inadequate and useless in their mere existence, risks losing focus on the most fundamental rules, and therefore becomes a threat to state order. See Tacitus, Cornelius, *Annales ab excessu divi Augusti*, Edited by Charles Dennis Fisher. Available online: <https://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.02.0077%3Abook%3D3%3Achapter%3D27>, accessed on 30 August 2023.
- 28 2022 UK High Court decision *Lavina Deborah Osbourne v (1) Persons Unknown (2) Ozone* and 2022 Singapore High Court decision *Janesh s/o Rajkumar v Unknown Persons (CHEFPIERRE)* are among the decisions where there were *prima facie* conclusions that NFTs can be classified as property.
- 29 The *Howey* test was first used with the United States Supreme Court case *Securities and Exchange Commission v. W.J. Howey Co. et al.* in 1946, where the court held that offer of a land sales and service contract was indeed an investment contract within the relevant securities legislation. The court held: “*For purposes of the Securities Act, an investment contract (undefined by the Act) means a contract, transaction, or scheme whereby a person invests his money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party, it being immaterial whether the shares in the enterprise are evidenced by formal certificates or by nominal interests in the physical assets employed in the enterprise*”. See *SEC v. W.J. Howey Co.*, 328 U.S. 293 (1946), available at <https://supreme.justia.com/cases/federal/us/328/293/>, accessed on 30 August 2023. (Emphasis added.)
- 30 United Kingdom His Majesty’s Treasury, Cryptoasset promotions: Consultation response at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1047232/Cryptoasset_Financial_Promotions_Response.pdf, accessed on 30 August 2023.
- 31 One of the most influential case laws relating to the NFTs (although having intellectual property rights in the centre as the main debate), *Hermès International and Hermès of Paris, Inc. v. Mason Rothschild* decision, also highlighted that “*NFTs can be easily sold and resold with a transaction history securely stored on the blockchain, NFTs can function as investments that can store value and increase value over time*”.
- 32 Fractionalized NFT refers to an NFT that represents a certain portion of interest of an asset or revenue stream.
- 33 Kevin McCoy, the creator of Quantum (the first NFT ever minted in 2014) wrote as early as 2013 in his blog *mccoospace* “*I am interested in developing a method or system where a contractual ownership token or message can be embedded within a blockchain transaction. This way, artists working digitally can present their work in its native form on the internet. At the same*

time, they would have a mechanism for selling it to a collector who would have a *verifiable and secure way of showing ownership and transferring ownership* to another party". See mccoyspace, Comment to Using the Blockchain as a Method for Assigning Ownership of Digital Artworks?, BITCOIN TALK (Oct. 24, 2013, 4:20 AM), <https://perma.cc/5MJJ-EAXF>, accessed on 16 June 2023 (Emphasis added).

34 Encyclopedia, Authenticity in Art: <https://www.encyclopedia.com/humanities/encyclopediasalmanacs-transcripts-and-maps/art-authenticity>, accessed on 16 June 2023.

35 The word provenance derives from the French word *provenir*, which means "to come from, to be result of." See Collins Dictionary, "Provenir", <https://www.collinsdictionary.com/dictionary/frenchenglish/provenir>, accessed on 15 May 2023. The denotation of "coming from" refers to the origins of the work.

36 See, for instance, McDowell (2020) to see the astronomic prices paid for items that were once owned by famous people.

37 Quantum was minted by Kevin McCoy on 3 May 2014 on Namecoin blockchain. The NFT was later minted on Ethereum blockchain on 28 May 2021 and sold in Sotheby's auction on 10 June 2021. The original blockchain Namecoin, is a key/value pair registration and transfer system based on the Bitcoin technology, with certain differences to make it function as domain names. It requires renewal of domain names for regular intervals. However, after the creation of Quantum, Kevin McCoy had not renew his registration. In principle, if the renewal is not performed, somebody else can claim the Namecoins. This manual renewal feature of Namecoin is stated to be in contrast with the concept that is the uniqueness of non-fungible tokens and the immutability of blockchain. In this case, no one, including McCoy, had claimed the name created by McCoy for several years. In 2021, where interest over non-fungible tokens spiked everywhere, and Quantum's name began being highlighted as being one of the earliest specimens of the new technology, a third party with the twitter alias @EarlyNFT registered the name on Namecoin on 5 April. After this registration, @Early NFT tried to contact McCoy several times through Twitter, to which McCoy never responded. Sotheby's then began the advertisement of the auction Natively Digital: A Curated NFT Sale around May 2021 and the sale occurred on 10 June 2021 Sotheby's explained that the NFT was "[originally minted on 3 May 2014 on Namecoin blockchain, and preserved on a token minted on 28 May 2021, by the artist". In addition, Sotheby's provided a condition report prepared by Nameless, which reads *inter alia*: "The hash and all the information about the artwork are stored on the Ethereum blockchain, and therefore cannot be modified. **This token was minted May 2021, but the referenced pieces were originally made public in 2014, with a link to the image hosted on the Namecoin network. [...] To avoid domain squatting, Namecoin was designed to include removal of pointers after 36,000 blocks. Accordingly, this specific Namecoin entry was removed from the system after not being renewed and was effectively burned from the chain.**" @EarlyNFT, represented by the Canadian company Free Holdings, started the lawsuit for title slander, deceptive and unlawful trade practice and commercial disparagement against Kevin McCoy, Sotheby's, and the NFT startup Nameless, who prepared the condition report published in Sotheby's website, and Alex Amsel, the buyer (who was later dismissed from the case on 8 March 2022). The statement of Sotheby's for describing the NFT sold at the auction is qualified as "false and misleading" by Free Holdings, because "Quantum is still extant on the Namecoin blockchain and requires no "preservation" and also objects to the condition report on Sotheby's website, which was prepared by Nameless, because "a Namecoin blockchain record cannot be "removed", and the blockchain record for Quantum has not been "removed" or "burned". Rather [it] remains active and under the control of Free Holdings". The defendants on the other hand declare that when Quantum was minted as an Ethereum-based non-fungible token, all related rights and ownership of Quantum was transferred to that NFT which was minted in 2021. It had been stated that, the original text of Quantum's value read "I assert title to the file at the URL <http://static.mccoyspace.com/gifs/quantum.gif>" and "Title transfers to whoever controls this blockchain entry." However alternative resource indicates that this expression was inserted around 30 April 2021, which is after the registration of @EarlyNFT. See Free Holdings Inc.v. Kevin McCoy, Sotheby's Inc., Nameless Corporation and Alex Amsel, 1:2022cv00881, Complaint, 5,7,39,40,44,50,60,61,62,63,64,70,77,78,79,81,82,89,90,91,92. The court then dismissed the case, stating that "Free Holdings has demonstrated nothing more than an attempt to exploit open questions of ownership in the still-developing NFT field to lay claim to the profits of a legitimate artist".

38 *Free Holdings Inc.v. Kevin McCoy, Sotheby's Inc., Nameless Corporation and Alex Amsel*, 1:2022cv00881, Complaint, 33, 49.

39 *Free Holdings Inc.v. Kevin McCoy, Sotheby's Inc., Nameless Corporation and Alex Amsel*, 1:2022cv00881, Complaint, 5,7,39,40,44,50,60, 61,62,63,64,70,77,78,79,81,82,89,90,91,92.

40 *Free Holdings Inc.v. Kevin McCoy, Sotheby's Inc., Nameless Corporation and Alex Amsel*, 1:2022cv00881, Opinion and Order Re Motion to Dismiss the Amended Complaint Pursuant to Federal Rules of Civil Procedure.

41 For an English translation of the case, see https://www.taylorwessing.com/-/media/taylor-wessing/files/germany/2022/06/mv-nl_04-2022_first-nft-decision-in-china_urteil-}-jinternet-court-hangzhou_final_neu_pdfa.pdf, accessed on 3 June 2023.

42 For instance, Article 9 of Rarible's Terms of Service provides for the permitted and prohibited conducts. Accordingly, the use of Rarible's services in a manner to violate any local, state, national or international law or knowingly selling, transferring or using the NFTs in a manner that does or may infringe any copyright, trademark, patent, trade secret or other intellectual property or other proprietary rights is prohibited. See Rarible Terms of Service at <https://static.rarible.com/terms.pdf>, accessed on 30 August 2023. In addition, Rarible Community Guidelines has do's and don'ts lists for both creators and collectors, which summarizes as "Treat people well. Be cool, kind and helpful. And never to anything illegal, unethical, or hateful". Also, these guidelines also have a reminder as not to "mint anyone else's work as NFTs (unless you've got permission)." See Rarible Community Guidelines at <https://rarible.com/community-guidelines>, accessed on 30 August 2023.

- 43 The number of NFTs available in the market should not be underestimated. A tweet dated 2022 of Alex Atallah, co-founder of and the current Chief Technology Officer of OpenSea stated: “There are now more NFTs on OpenSea than there were websites on the internet in 2010. Very soon, NFTs will outnumber websites, maybe even webpages. This growth has major implications for how we should index NFTs...” See Alex Atallah’s tweet at <https://twitter.com/xanderatallah/status/1501619723338924039>, accessed on 30 August 2023.
- 44 This view is also in line with Beeple’s thoughts relating to NFTs provided in one of his interviews: “I actually believe it is a bubble, to be quite honest. I think you’re going to see a mad rush of people come to this space. And a lot of the stuff that people are making into NFTs is junk. And that stuff will not hold its value. When the bubble bursts, it’s not going to wipe out this technology. It’s just going to wipe out the junk.” at NPR, The USD 69 Million JPEG, <https://www.npr.org/transcripts/976513031>, accessed on 30 August 2023.
- 45 The term “technological myopia” is used by Richard Susskind, who defines it as an inability to anticipate how substantially superior future systems would be in comparison with existing ones. He claims that the term includes an incapacity to comprehend the likely ramifications of nearly certain technical developments. It also entails thinking about the future based on the constraints of current systems. See [Susskind \(2021\)](#).

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