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# Art provenance yesterday, today, and tomorrow with a particular focus on blockchain technology


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# Introduction

In the study of art history, a scholar inevitably faces the question: what is true? Who owns this truth? Is there a single person or source which can tell us with absolute certainty that a given Titian is real, and was made by his hands? Or, in the case of a piece of media art like *89 Seconds in Alcázar* (2004), a video installation originally made by Eve Sussman,[1] can the authenticity of the piece be determined irrespective of the number of times it is transferred from one person to another, or from a museum's collection to the technical team responsible for an exhibition?

As a rule, works of art are accompanied by documentation known as provenance that attests to their authenticity. Authenticity and provenance—documentation of truth, at their core—are fundamental to the success of the market and an artist's growth in the art world. Tracing the origin of work provides contextual and circumstantial evidence of its original production and a record of its history—specifically, the history of its acquisitions.

Preparing provenance documentation is historically a manual, labour-intensive process. The experts responsible for it conduct their research in a wide range of records maintained by isolated institutions, from museums and libraries to auction houses, and typically kept private by the stewards of those collections. This resulted in enormous gaps in knowledge among both the general enthusiast and the collecting public, leaving space for both innocent error and intentional

[1] Eve Sussman is an American artist primarily known for her work with motion pictures, video art and installations. Her video homage to *Las Meninas* by Velázquez, *89 Seconds in Alcázar*, which earned widespread renown in art circles, posed numerous questions about the authorship and ownership of a piece of art.

Besides, and this is important for my topic, Sussman is considered to be one of the first artists working with blockchain. Her main motivation driving her toward this new technology is its share economy potential. See her interview about *89 Seconds Atomized* published on Snark.art YouTube channel https://www.youtube.com/watch?v=uUzLLHUqQnE. In the last chapters of my thesis I will analyse in more detail her other works.

forgery. The problem persisted for centuries until the ideas of open data and of digital cryptography began to penetrate the art world.

In this work I will attempt to show the changing of the concept of provenance, focusing on a series of inflection points where serious changes occurred in the approach to provenance: specifically, the eighteenth century with its desire to archive, the period prior to and during the French Revolution, the aftermath of the World War II, and the shift happening today, involving a sea change in cultural practices brought about by the rise of breakthrough digital technologies. The latter subject will be the primary focus of this work.

Political shifts like wars and revolutions are among the most common drivers of the redistribution of art. Questions of provenance follow immediately in their wake. The Napoleonic Wars coincided with (or, more accurately, provoked) the ideological shift toward the ideals and images of the French Revolution. This meant a broad transfer of cultural "ownership," as history became the property of society and works of art were placed in nationalised museums. In turn, this made issues of provenance—both the practical exigencies of inventorying new acquisitions and the form of the documentation itself—all the more pressing.

The next sea change in the Western art landscape was the Second World War. It would not be an exaggeration to say that the cultural landscape in the twentieth-century United States was shaped by Nazi-looted art. The chaos began before the war, as the National Socialists forced fleeing Jews to sell their valuables at bargain prices, further material losses by refugees once they were abroad, and the aesthetics of the National Socialist party itself. It promoted a new "heroic realist" style and used contemporary art of the preceding years, termed "degenerate" art, for economic ends. The situation naturally worsened with the turmoil of the war and its aftermath: the Soviet "trophy" brigades were followed by Allied recovery missions, the most famous of which was the American "Monuments Men." This mission was a rescue operation of paintings stored in a

salt mine in central Germany, and it served as the next watershed moment in the history of art provenance. The following decades of Western scholarship were devoted to understanding the complex political issues of restitution, as well as reexamining the very concept of provenance, which was replaced closer to the last decades of the century by new tasks: specifically, digitisation of records and their compilation into huge databases. This process marks the beginning of a third great shift, and this work will explore the potential role of blockchain technology in this shift in greater detail. Blockchain-based tools promise artists, experts and cultural institutions the resources necessary to establish and maintain the authenticity of work as a community. The decentralised, participatory nature of the technology reduces the reliance on overloaded, slow-moving centralised institutions and the need to manually sift through mountains of information that had been extensively referenced and systematised over previous decades, yet was never easily searchable.

Studies dedicated specifically to the origins of artworks were a rarity just thirty years ago, yet art historians have long been preoccupied with the matter. Research on provenance required the processing and systematisation of disparate information from disjointed sources combined with a thorough study of the collection marks and markings on the works themselves. The most important modern work in this field was carried out after World War II, updating and compiling sources like inventories and auction catalogues from almost three hundred years ago. Though results of this work were not always conclusive, when it was possible to trace the full chain of ownership, the information was published in museum or auction catalogues and added to footnotes of subsequent scholarly articles.[2] Regarding the third historical paradigm shift, we have yet to see a serious study of the use of blockchain technologies in art historical provenance, in

[2] Introduction to Gail Feigenbaum and Inge Reist, eds., *Provenance: An Alternate History of Art* (Los Angeles: Getty Research Institute, 2013), 1–2.

contrast to the numerous speculative essays on the nature of this technology and its potential influence.[3]

What is the blockchain? The concept is generally familiar to technology enthusiasts and industry professionals, but it has yet to reach widespread, mass-market adoption; therefore, I will offer a short explanation. Blockchain is a technology for maintaining replicated distributed ledgers (databases) which ensure that transactions are carried out by equal participants in a digital format, all without involving intermediaries. Though the mainstream media tends to associate blockchain primarily with cryptocurrencies (such as Bitcoin and Ethereum), the technology and its philosophical underpinnings are applicable to all multilateral transaction systems. Smart contracts,[4] asset tokenization[5], decentralised applications[6] and NFT[7] are some of the most interesting technologies in the blockchain ecosystem, driving change in business, government and daily life by decentralising and automating transactions while dramatically reducing transaction costs. Conducting business using the blockchain increases transaction speed by reducing paperwork burdens (as all

[3] In other words, there are no academic articles that enumerate the possibilities offered by the blockchain to the field of art provenance, though in searching for these, one can find many examples of texts that offer mere analysis of older, often entirely unrelated technologies (such as big data). Some examples can be found in Jane C. Milosch and Nick Pearce, eds., *Collecting and Provenance: A Multidisciplinary Approach* (Washington, DC, Smithsonian Institution, Smithsonian Provenance Research Initiative, 2019). Specific texts include: Christian Huemer, "The Provenance of Provenances," 3–16, and David Newbury and Louise Lippincott, "Provenance in 2050," 101–112. Better analyses can, however, be found in online media, which are uninhibited by the time-consuming print publishing process. Take, for example, an anonymous article published on *Cryptopedia*: "The Utility of Blockchain for the Fine Art Industry," December 23, 2021, https://www.gemini.com/cryptopedia/fine-art-on-the-blockchain-nft-crypto. Another example: Catlow, R., Garrett, M., Jones, N., & Skinner, S., *Artists Re:thinking the Blockchain* (Liverpool, UK: Torque Editions, Furtherfield & Liverpool University Press, 2018).

[4] Smart contracts are auto-executing (self-executing) contracts in the form of a blockchain-based computer algorithm.

[5] Tokenization is the transfer of ownership of tangible and intangible assets to digital format (tokens).

[6] Decentralised applications are smart contracts not directly connected to financial operations.

[7] NFT, or a non-fungible token is a non-interchangeable unit of data stored on a blockchain, a form of digital ledger, that can be sold and traded.

information is automatically encoded into the blockchain during the transaction) and facilitating both asset verification and contract tracking. (Needless to say about AI and big data technologies that help us operate overloads of information.) As applied to art history and the role of provenance within it, the blockchain and innovations that make use of it represent a potential leap forward in artistic provenance technologies, both for traditional physical works of art and for digital, distributed forms of media art—at least, in the opinions of numerous experts.

Therefore, in my work, I will attempt to answer the following research questions: How has the approach to provenance in art history changed? And what are the main problems it faces? Could these problems be solved with blockchain technology? And if yes, then what are the growth predictions that can be made based on interviews with experts, the opinions of contemporary researchers into this phenomenon and experts of the art world, and a historical view of the phenomenon of provenance?

The work consists of four parts. In the first "Theoretical background: provenance approaches and basic art historical provenance sources" paragraphs, I make a brief foray into the history of the term "provenance" and then consider its usage in different fields of knowledge apart from art history: archeology, archival studies, book history and how this word is used in modern science. Later I focus on the main types of resources, naming the landmark ones. This is needed to show how the evolution of provenance correlates with the development and complication of provenance tools, that is, resources—from lists and monographs, through indices and directories to complex databases. At the end of this part, I provide the short reviews of the three essay collections[8]—the main sources reconsidering the place and problems of provenance in art history.

[8] Cited above on p. 8, fn 3: Jane C. Milosch and Nick Pearce, eds. *Collecting and Provenance: A Multidisciplinary Approach* (London: Rowman & Littlefield, 2019) and Gail Feigenbaum and Inge Reist, eds., *Provenance: An Alternate History of Art* (Los Angeles: Getty Research Institute, 2013).

The second part called “Provenance in art history” presents a historical narrative based on the secondary sources dedicated to the art provenance study and related problems. The part is divided into several chapters, each of which deals with a particular problem in the context of provenance: such as the story of the art forgery; the new type of auction catalogues in the eighteenth century France emerged out of the eighteenth century strive to archiving and the boom of the French art market; the nationalisation of art during and after the French Revolution; art plunder under Napoleon; and the Nazi looting and the aftermath of the World War II in different countries (America, France, USSR, and Germany). These historical narratives are intended to eliminate possible misreads of provenance as a concept that is equally applicable, for instance, to the events of today and of earlier epochs.

The third part “Blockchain and preceding findings on provenance technologies in the art. The present and the future,” provides the historiography of the technological innovations within the art field and meditates on the possibilities there modern technologies bring to the art historical provenance—how AI and 3D scanners are changing the approach to studying the authenticity of works; how the evolution of cryptocurrencies led to the emergence of NFT-art—a phenomenon in the shortest possible time won a huge place on the modern art market; and on other less considerable moves the blockchain brings to the art field.

The next part “The sociocultural context of provenance research: the problem of authenticity and art markets” deals with such questions as: what does it mean for the work of art to be authentic? How does authenticity impact the value of a work of art? And, since I mention the cost of a work of art, then, of course, it is impossible not to talk about where and how this value is formed. I answer these questions, drawing on the context of digital art on blockchain—in order to understand what changes in the field of such a market aspect as provenance, its appearance entails.

The last two parts use the material of five interviews of individuals, each of whom represents a particular focus from within the art market. They are: a curator from the State Hermitage Museum who worked on the institution's first official NFT exhibition, the associate director of Christie's (CIS),[9] representatives of a bank and museum working to integrate NFT technologies into the art world, an art dealer and even an artist.

So, if the first two parts provide the historiography of provenance based on secondary sources, then the last two parts make up the novelty.

This text is a result of interdisciplinary studies so I used methodological approaches from different disciplines. For example, the first part is a descriptive essay on the terms, basic sources and concepts of art provenance. In the second part, I provide a historical analysis, using secondary sources, of the largest methodological shifts in provenance. The third chapter, although descriptive in terms of presenting technologies and the latest trends in the digitalization of art, uses a qualitative research methodology, and includes analysis of interviews taken specifically for this work from representatives of various industry sectors. Our interviews were conducted not according to a general guide, but based on the specifics of the area that each of the interviewees represents. Since these areas differ greatly in the specifics and approach to the stated problem, the list of questions was individualised for each. In the fourth part, I analyse the art market (especially the digital component) from the perspective of cultural sociology. In this analysis I resort to the interviews as well as to the reports by the market analysts.

[9] In March 2021 Christie's sold a collage by the digital artist Mike Winklemann, better known as Beeple, for 42,329 Ether, at the time the cryptocurrency equivalent of $69.3 million. Auction Calendar of Christie's, 25 February–11 March 2021, https://onlineonly.christies.com/s/beeple-first-5000-days/lots/2020.

## Part I. Theoretical background: provenance approaches and basic art historical provenance sources

To begin, we need to understand the origin, meaning and usages of the term across various fields of knowledge. I will then outline the sources used by traditional art historical provenance and describe their development over the course of the twentieth century. I will show the evolution from traditional monographic to the complex indices and digital databases of today by reference to the most illustrative examples, such as Frits Lugt's *Répertoire des catalogues de ventes publiques* [Directory of the auction catalogues] and the Getty Provenance Index, a landmark project started in the 1980s.

The term "provenance" derived from the French *provenir*, meaning "to come forth, arise; originate."[10] In English the word has two common meanings. Below are the entries in the Concise Oxford English Dictionary and Merriam-Webster's Dictionary, respectively.

1. *The fact of coming from some particular source or quarter; origin, derivation (ca. 1785);*
2. *The history of the ownership of a work of art or an antique, used as a guide to authenticity or quality; a documented record of this (ca. 1867).*[11]

1. *Origin, source;*
2. *The history of ownership of a valued object or work of art or literature.*[12]

[10] "Provenance," Online Etymology Dictionary. Written and comp. by Douglas R. Harper (2001–2022), https://www.etymonline.com/search?q=provenance.
[11] "Provenance," *The Concise Oxford English Dictionary.* Comp. by C. Soanes et al. (Oxford: Oxford University Press, 2004) (e-edition).
[12] https://www.merriam-webster.com/dictionary/provenance.

In the course of my work, I will use both definitions: the first dealing with the concept of origin in general, or the literal meaning and the second, meaning chain of ownership. In speaking of provenance, we historically think of valuable objects like works of art, but its current scope is far broader. Today, this word can encompass works of art, books and even data sets. In the last case, the "provenance of data" would entail a "description of the origins of a piece of data and the process by which it arrived to a database."[13] I propose a closer examination of the concept of provenance as employed in archaeology, archive studies and book history, and in the contemporary science behind big data.[14]

*Provenance of antiquities*

Archaeologists use two terms: the aforementioned "provenance," meaning the full documented ownership history of an artefact, and its homophone "provenience," meaning a specific location where this object was found (also known as a findspot). The latter variant may also be considered an Americanization of "provenance."[15] As a result, an artefact can have both historical and physical, geographical origin. Even though modern archaeological methods can provide very accurate data, such as a three-dimensional map of a findspot, the antiquities market remains flooded with frauds, for reasons ranging from devastating wars

[13] Peter Buneman, Sanjeev Khanna, and Wang-Chiew Tan. "Why and Where: A Characterization of Data Provenance," in International Conference on Database Theory (Berlin, Heidelberg: Springer, 2001): 316.

[14] Big data—"very large sets of data that are produced by people using the internet, and that can only be stored, understood, and used with the help of special tools and methods" Cambridge Dictionary online, https://dictionary.cambridge.org/dictionary/english/big-data. Or according to another definition, big data is "the information that requires special processing techniques because it exists in large quantities, is highly heterogeneous, or is produced extremely quickly. [It] is usually associated with major scientific endeavours such as the Large Hadron Collider or the Human Genome Project." Hsinchun Chen, Roger H. L. Chiang, and Veda C. Storey, "Business Intelligence and Analytics: From Big Data to Big Impact," *MIS Quarterly* 36, no. 4 (2012): 1165–88.

[15] Rosemary A. Joyce, "From Place to Place: Provenience, Provenance, and Archaeology." In *Provenance: An Alternative History*, 48–50.

around the globe (most recently Afghanistan, Syria and Iraq)[16] to difficulty tracing artefacts from markets such as Africa and Latin America due to forged documentation in the museum's possession.[17] Sadly, the root of the problem remains the same: as Donna Yates and Emiline Smith write, the rare and restricted nature of antiquities means that demand in this market far outstrips supply.[18]

Smuggling, looting (unauthorised excavation), forgery, frauds and falsification are rife, to say nothing of false narratives and rhetoric intended to obscure or justify illegitimate ownership. In their investigation of the most common scenarios, Yates and Smith identified what might be called "Indiana Jones" narratives: antiquities are collected before laws governing such practices are passed, preserved by collectors unaware of their value, and "rescued" in violation of the law to save the object from threats like conflict or agricultural development.[19] The grey market for antiquities further complicates the field even more; "taming" (quotation mine) it usually requires adjusting procedures of due diligence, imposing new rules and standards on different market actors, and monitoring their compliance—to prevent forging provenance documentation, including import and export certificates, letters of ownership, proofs of sale, and insurance documents and, and consequently, to prevent an illegal antiquity appear legitimate.[20]

All these narratives involving both deception and great personal risk cause myriad problems for investigators and researchers, forcing them in turn to use diverse "tools" and methods from a range of disciplines: archaeology,

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[16] Jane C. Milosh and Andrea Hull, "Provenance Research in Museums: From the Back of the House to the Front," In Jane C. Milosch and Nick Pearce, eds. *Collecting and Provenance: A Multidisciplinary Approach* (London: Rowman & Littlefield, 2019), 43.

[17] How locals may treat findings: Robin Scher, "Better Safe Than Sorry: American Museums Take Measures Mindful of Repatriation of African Art," *Art Newspaper*, 11 June 2019, https://www.artnews.com/artnews/news/african-art-repatriation-american-museums-12750/.

[18] Donna Yates and Emiline Smith, "Antiquities Trafficking and the Provenance Problem." In *Collecting and Provenance*, 385.

[19] Yates and Smith, "Antiquities Trafficking," 385.

[20] Ibid., 386–387.

criminology, legal analysis, anthropology, art history, museum studies, geography and economics to reconstruct the movement of illicit antiquities by careful analysis of the time, place and social, political and cultural situation in the region.[21]

One attempt at a solution took the form of a series of conventions and regulations to prevent illicit trafficking, adopted by nations who ascribe to UNESCO's philosophy of "heritage of all humankind." However, protective policies and laws that have existed in some countries for well over a century fail to prevent wealthy and powerful antique aficionados from acting malevolently.[22] So, no set of rules does not prevent illegal trafficking. And the very substance, or object of provenance in this case, makes the research very voluminous.

*Archival provenance*

Archival science and archival processing are very dependent on provenance, or as it is sometimes called among archivists "custodial history."[23] In the archival tradition, good provenance relies on the facts that records originate from a common source (or funds) and that they should be stored together when practically possible (apparently, data provenance is the most close conception within the bunch of different "provenances"). Unfortunately, any archive may well contain fraudulent or simply incorrect entries, and "[provenance] like many

[21] Ibid., 387–388, 392.

[22] The main shift in the international rules controlling the sphere of illicit trafficking or antiquities occurred in the 1970s when UNESCO issued the Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property. New guidelines for the Association of Art Museum Directors (AAMD), issued in 2008, refer to this time and to 1983 when more stringent rules were adopted. IFAR's Provenance Guide, compiled by Sharon Flescher, Lisa Duffy-Zeballos, Victoria Sears Goldman, and Julia May Boddewyn, https://www.ifar.org/Provenance_Guide.pdf, 20–21; Yates and Smith, "Antiquities Trafficking," 385.

[23] The Principle of Provenance: Report from the First Stockholm Conference on Archival Theory and the Principle of Provenance, Kerstin Abukhanfusa and Jan Sydbeck, eds. 2–3 September 1993. (Stockholm: Swedish National Archives), 1994.

principles <...> is easier to state than to define and easier to define than to put into practice."[24]

The thinking of the nature of archives and how to compile and treat a good archive began to gain traction after the French Revolution, when records began to "acquire the dignity of national monuments."[25] It later gained widespread recognition thanks to the work of three Dutch state archivists, Samuel Muller, J. A. Feith, and R. Fruin (so called "Dutch Manual"), published in the Netherlands in 1898.[26] And these dates are also important for the history of art, since the first immortalised the public museums with their new provenance approach[27] and the second coincidence with the connoisseurship upheaval, which later in the twentieth century, gave fruits to the first art directories.

The respect for history shown by the French pioneers and formalised in writing by their Dutch colleagues at the turns of their respective centuries later began to be developed more deeply by subsequent generations of historians and archivists who draw their attention to the social contexts in which records are initially inscribed, analysing how "records are transmitted and used over their lifetime"[28]—the process is very similar to what happened among art connoisseurs. In other words, additional context, or information increment deepens our understanding of history. And as it usually happens, such change was accompanied by changes in approaches to knowledge; the historiographical and

[24] Michel Duchein, "Theoretical Principles and Practical Problems of Respect des fonds in Archival Science," *Archivaria*, no. 16 (Summer 1983): 64.
[25] Ernst Posner. "Some Aspects of Archival Development since the French Revolution." *The American Archivist*, vol. 3, no. 3, 1940. 161, 166.
[26] Jennifer Douglas, "Origins: Evolving Ideas about the Principle of Provenance." In Terry Eastwood and Heather MacNeil, eds., *Currents of Archival Thinking* (Santa Barbara, Calif.: Libraries Unlimited, 2010), 27–28.
[27] Dominique Poulot writes about these processes in his article "Provenance and Value: The Reception of Ancien Régime Works of Art under the French Revolution," in *Provenance: An Alternative History*, 65-84. See my chapter based on his research "The French Revolution, nationalisation, musealization and new historiographic ethics" (pp. 65-69).
[28] Jennifer Douglas "Origins and Beyond: The Ongoing Evolution of Archival Ideas about Provenance," in Heather MacNeil, Terry Eastwood ed., *Currents of Archival Thinking*, 2nd ed. (Santa Barbara, California: Libraries Unlimited, 2016), 37.

sociocultural scientism of the twentieth century made our view of archival provenance more elaborate and even more detail-oriented.

*Book provenance*

The next logical, yet not chronological, passage is the case of book provenance. The study of book provenance is a widely used tool in traditional history and philology, for it can shed light on the role of specific names in social, intellectual, and literary history. For instance, examining the list of books belonging to a particular writer helps to establish with some certainty what works influenced his work.[29] The case of book provenance is very interesting, since the books as cultural valuables are not unique and as collectibles sometimes are not even rare.

Books provenance can be studied both by examining the items themselves (regarding such things as labels, bookplates, or bindings) and by reference to external sources of information, such as auction catalogues.[30] The most interesting and peculiar details of a book's history usually conceal in: when the book goes from one owner to another, and whether we can find some traces and evidence of this ownership.[31] This level of provenance can be of avail for book lovers that don't have any special background and just want to enliven their visits to bookstalls. Obviously, the most studied aspect of book provenance due its exposed and legible/precise nature are bookplates, or exlibris.[32] In Europe, the practice of adorning books with exlibris stems from the mediaeval custom of book

[29] David Pearson, *Provenance Research in Book History: A Handbook* (London: British Library, 1998), 116.
[30] Pearson, *Provenance Research in Book History*, 132.
[31] David Pearson, "Provenance and Rare Book Cataloguing: Its Importance and Its Challenges." In David J. Shaw, ed., *Books and Their Owners: Provenance Information and The European Cultural Heritage* (Consortium of European Research Libraries, 2005), 1–9.
[32] The word "exlibris" is a mediaeval Latin term, and its literal meaning is "out of the books or library." Usually, exlibris is a book sign, or a small paper label that has the identification details of the book's owner is pasted on the inside of the upper cover of the book cover/to the inside front cover of a book. Pearson, *Provenance Research in Book History,* 243.

curses, inscriptions that monastery scribes left in the books to prevent thievery.[33] The mediaeval roots of the tradition began to reappear at the dawn of democratisation of book ownership, when the book still served for the upper classes as the high monetary value and at the same time the lower classes bagan to consume books "as symbols of their stability and credit-worthiness."[34]

Not only exlibris, but the whole field of book provenance seems to have been studied up and down. At the end of the nineteenth century, numerous amateur collectors turned their attention to exlibris and, as a result, this area of knowledge began to be scrutinised. The largest collections of exlibris were curated during this period.[35] However, apart from symbolic inclinations, there are several moments that reveal how exlibris as an ownership mark was enacted.

First of all as an ownership mark exlibris implied a personal relationship. A researcher of provenance Gail Feigenbaum states, "there were times when conventions for marking ownership of, predominantly, luxury manuscripts were highly developed and skilful, and they contributed to the creation of a personalised object."[36] When the books began to circulate more widely at the beginning of the era of mass-production, the exlibris was seen by some unscrupulous sellers as a simple way to sell a book at a higher price. They purchased old exlibris separately and pasted them on publications, pretending that the book came from the corresponding collection.[37] Walter Benjamin in his widely cited essay "Unpacking My Library" wrote, "for a true collector a whole

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[33] Nicholas A. Basbanes. *A Gentle Madness: Bibliophiles, Bibliomanes, and the Eternal Passion for Books* (USA: Fine Books Press, 2012), 35.
[34] Lauren Alex O'Hagan, "Steal Not This Book My Honest Friend." *Textual Cultures* 13, no. 2 (2020): 248.
[35] Such were the collection of Sir Wollaston Franks (1826–1897) and the continental collection of a German nobleman Count Leiningen-Westerburg (1856–1906). Warren H. Lowenhaupt, "The Hooker Collection," *The Yale University Library Gazette*, vol. 32, no. 3 (1958): 104–105; Karl Emich Leiningen-Westerburg, *German Book-Plates: An Illustrated Handbook of German & Austrian Exlibris* (George Bell & Sons, 1901).
[36] Feigenbaum, "Manifest Provenance," 9.
[37] Rudolf Freiman, *Exlibris: A Brief Historical Outline of the Book Sign* (St. Petersburg: Vremya Publishing House, 1922), 78. *In Russian*.

background of an item add up to a magic encyclopaedia whose quintessence is the fate of his object."[38] The question that I would put here: If book collecting is an example of the most accessible option of collecting of arts and crafts and it has given rise to the tradition—when not the uniqueness of the object as such, but the uniqueness of the chain of its owners begins to determine the value—are we allowed to say that there are chances that the same can happen to a digital content production, the tools of which are becoming available/feasible to more and more people.

As we can see, the provenance of books—on average, a much less valuable object than works of art—has long had a special marking of ownership, which was rarely used in court, but nevertheless clearly related the book to its owner.

*Science: data provenance*

Apart from the humanities, the term "provenance" is also used in scientific inquiries operating with massive data sets. In fields like ecology, medicine and even some social sciences, it helps groups of researchers and investigators collect reproducible results by tracking, analysing and interpreting their data.[39]

One of the most interesting recent cases was a research that, thanks to tracking data of the NYC taxi, showed that officials of the Federal Reserve Bank and bankers of six major commercial banks are more likely going on lunchtime meetings during the major political shifts, and that could explain systematic

[38] Walter Benjamin, "Unpacking My Library: A Talk about Book Collecting," in *Illuminations: Essays and Reflections*, ed. by Hannah Arendt, trans. by Harry Zohn (New York: Schocken Books, 1969), 60.

[39] Thomas Pasquier, Matthew K. Lau, Ana Trisovic, Emery R. Boose, Ben Couturier, Mercè Crosas, Aaron M. Ellison, Valerie Gibson, Chris R. Jones, and Margo Seltzer. "If These Data Could Talk." *Scientific Data* 4, no. 1 (2017): 1–5; Emery R. Boose, Aaron M. Ellison, Leon J. Osterweil, Lori A. Clarke, Rodion Podorozhny, Julian L. Hadley, Alexander Wise, and David R. Foster, "Ensuring Reliable Datasets for Environmental Models and Forecasts," *Ecological Informatics* 2, no. 3 (2007): 237–247; Xiaogang Ma, Peter Fox, Curt Tilmes, Katharine Jacobs, and Anne Waple, "Capturing Provenance of Global Change Information," *Nature Climate Change* 4, no. 6 (2014): 409–413.

leakage from the Federal Reserve.[40] This research, even though it was technically possible, didn't reveal names of insiders and employed anonymous records. Barely such study models are applicable for art history with its very specific objects having many diverse characteristics or, on the other hand, as David Newbury and Louise Lippincott notice in *Collecting and Provenance*, with the secretive nature of art market.[41] Although, the data volumes and analysis speed demonstrated here undoubtedly indicate that, with the right institutional changes, such tools can radically change the industry.[42] In the final part dedicated to the blockchain, I will return to this case study.

*Basic steps and sources of traditional art provenance research*

The purpose of the art provenance study is to compile a complete list of owners (if possible, with supporting documented evidence) from the time the work of art was created in the artist's studio to the present day and to account all its movings. How the provenance research is prepared depends on for whom and under what conditions it is performed: for example, whether it is a market order or a filling of blank spots by a museum. What then are the basic steps of an art provenance research? If this question, of course, can be posed. Today there are many manuals with recommendations on how to conduct a provenance research,[43] and each scholar chooses their own path depending on their objectives—the sources they use in their work and how they prioritise them—and in a digitally diverse era they sometimes come from interaction with a minimum of input sources and a maximum of data, which through such a "journey" can be obtained. That is, the

[40] David Andrew Finer, "What Insights Do Taxi Rides Offer into Federal Reserve Leakage?", *Chicago Booth*, George J. Stigler Center for the Study of the Economy & the State Working Paper no. 18 (March 2, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3134953.
[41] David Newbury and Louise Lippincott, "Provenance in 2050," in *Collecting and Provenance: A Multidisciplinary Approach*, 108.
[42] Newbury and Lippincott, "Provenance in 2050," 109.
[43] IFAR's Provenance Guide; Yeide et al., *The AAM Guide to Provenance Research*, Reynolds, *An Art Provenance Research Guide for the Researcher and Librarian*

time of digital directories changes the traditional approaches of art historians—not the most authoritative monograph, but a corpus source will be of interest to a young scholar; a museum worker will be interested in the whole variety of sources in decreasing order of their reliability, while an experienced connoisseur and art dealer may have his own special view.

In practice, there are likely gaps in the list and documents that are missing or lost. The documentary origin should also list when the painting was part of the exhibition, and the bibliography when it was discussed (or used as an illustration) in print.[44] When the study goes in the opposite direction: to discover the previous provenance of a work of art whose current ownership and location are known, it is important to record the physical details of the work of art (style, subject, signature, materials, dimensions, frame, etc.). The names of the work of art and its belonging to a particular artist's style can change over time. The size of the work and its description can be used to identify earlier references to the object. If we are talking of the painting, its back may contain significant information about the origin. There may be exhibition stamps, dealer stamps, gallery labels and other signs of previous ownership.[45] Marking a mobile object with a visible property mark was a typical practice for many cultures and societies. Signs of ownership range from the brands of cattle to the monograms on clothes. Traditionally, anthropology, sociology, and economic history analyse labelings—rather more often than art history. Such labelings mark individual or corporate property, assigning special meaning to the property and signalling concern for legitimate property or theft. However, for the types of things that are conventionally covered by the art category property signs have generally become complex and conditional. Tags are often placed on works of art that are portable and easy to transfer. This partly explains why museums have long continued the tradition of putting their property stamp on drawings, often prominently, often on a straight

[44] Yeide et al., *The AAM*, 9-10.
[45] Ibid., 11-15; IFAR's Provenance Guide, 1.

line, and sometimes even on unmounted drawings, where the reverse side was exposed and available for marking? Until recently, this practice was widespread, although its effect can be disfiguring and can interfere with artistic intent. So, the function of these signs is double: they prevent theft and are a means for displaying property.[46]

As told by the Christie's representative, the provenance work usually means studying documentation and photographies in the owner's possession, published books, journals and other sources and checking them against databases of stolen works and works marked for restitution.[47]

There are many manuals that provide lists of diverse sources. However, since my goal is not not provide the full scope of sources, but to emphasise the historiographic sequence, I would like to structure the narrative in such a way that the historicity of the change and the tectonic nature of the shifts were apparent to the reader, and in the following pages I will start from the fact that we are "stuck in time" and technological progress catches up with us as the next pages unfold. With this presupposition in mind, we would say that the first step of a provenance researcher (though, of course, that is at least a generalist deduction, but in fact—a traditionalist, somewhat outdated today modus) is typically to check if there is a *catalogue raisonné. Catalogues raisonnés* are monographic sources dedicated to the oeuvre of the artist. The *catalogue raisonnés*, one of the most valuable resources in provenance, represent the knowledge of a scholar who has devoted much of their career to the study of a particular artist—with a strict level of scrutiny. Typically, entries include the technical characteristics of the work, the history of its exhibition or publication, its provenance and all the references to this work in scholarly literature, with all works presented in strictly chronological order. A researcher should also examine other monographic sources. By definition, monographs do not attempt to describe all the work of the artist. They

[46] Gail Feigenbaum, "Manifest Provenance." In *Provenance: An Alternative History*, 6-9.
[47] Appendix on p. 202.

focus on the artist's career as a whole or on a certain aspect of it, rather than documenting individual works of art. Even the most tedious monograph prepared using secondary sources or outdated information, can be called a *catalogue raisonné*.[48]

Another type of resource, which should be checked by a resolute researcher, is exhibition catalogues. Those catalogues document the owner and location of the property at the moment of the publication—alongside with such documents as auction catalogues they provide the reader with the permanent record.[49] By far, the meticulous scholar would also look for auction and sales catalogues—nothing to say about journals.

The curious researcher may also review special directories—for example, some of Bernard Berenson's (1865–1959) seminal works on Italian art or Hofstede de Groot's (1863–1930) ten-voluminous opus magnum *Beschreibendes*

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[48] Yeide et al., *The AAM Guide to Provenance Research* (American Association of Museums, 2001), 22.
With *catalogues raisonnés* there are two things to pinpoint. First, not every culture produced them till the last decades—such is the case of many Russian painters. Although all major Russian museums have their collections catalogued, by 2008 only less than a dozen of individual artists have had their *catalogues raisonnés* compiled. Sergei Reviakin, "Russia." In James Goodwin, ed. *The International Art Markets: The Essential Guide for Collectors and Investors* (Kogan Page: 2008), 268. The second thing is that as many phenomena today *catalogues raisonnés* exist in flux, and there are many attempts to bring them to digital format, starting with catalogues produced in the form of CDs and to more flexible digital presentations.

Emily Atwater. "The Changing Form of the Catalogue Raisonné: Hurdles of Transitioning from Print to Web." *Art Documentation: Journal of the Art Libraries Society of North America* 31, no. 2 (2012): 186–198. The last, though, meets sceptics who are "hesitant to rely on a publication that is subject to change and <…> are more comfortable with the definitiveness and gravitas of the printed form." Georgina Adam, "It Is Time for Catalogues Raisonnés to Join the Digital Age," *The Art Newspaper*, December 1, 2020, https://www.theartnewspaper.com/2020/12/01/it-is-time-for-catalogues-raisonnes-to-join-the-digital-age.

[49] Yeide et al., *The AAM Guide to Provenance Research* (American Association of Museums, 2001), 22-23. "Exhibition Catalogues," *The Burlington Magazine*, vol. 105, no. 725 (August 1963), 343. Exhibition catalogues may list creditors as a group separate from their borrowed work; even so, these lists may be cross-referenced and confirmed by other sources. Information about the origin of the goods in the exhibition catalogue usually comes from the lender who confirms the authenticity of the works. Sometimes, exhibition catalogues essays even provide valuable information about past owners. Ibid.

*kritisches Verzeichnis der Werke der hervorragendsten Holländischen Mahler des XVII. Jahrhunderts* (1907–1928; English translation of the first eight volumes was published in 1908–1927 under the title *A catalogue raisonné of the works of the most eminent Dutch painters of the seventeenth century, based on the works of John Smith*). Many of these directories were created in the twentieth century. The heyday of art history and its formation as a professional field of knowledge in the fin-de-siècle, with the transition from amateur connoisseurs and authorities to specialists and professionals, gave rise to a whole galaxy of art historians who made a tangible contribution to the development literature auxiliary for all seeking provenance information—in addition to the previously mentioned works of Hofstede de Groot and Bernard Berenson.[50]

It could be said that as a discipline twentieth-century provenance is based upon the work of British art seller Algernon Graves (1845–1922). Though he never claimed to be an art historian, Graves was the author of several dictionaries, compiling a tremendous range of sources. The most powerful part of his oeuvre should be considered a book called *Art Sales from Early in the Eighteenth Century to Early in the Twentieth Century (mostly Old Master and Early English Pictures)*. The book was published in London between 1918 and 1921 and is arranged alphabetically by artists. The rubrics are as follows: the date of transaction, the auction, the owner, the lot number, the name of the painting, the buyer and the sale price. In addition to this, it has multiple tables and lists that help in finding the proper information.[51]

Another prominent connoisseur, Dutch self-taught collector Frits Lugt (1884–1970) in his seminal work *Les marques de collections de dessins &*

[50] Rens Bod, *A New History of the Humanities: The Search for Principles and Patterns from Antiquity to the Present*, United Kingdom: OUP Oxford, 2013, 315; Kenneth Clark, "Bernard Berenson," *The Burlington Magazine* 102, no. 690 (1960): 381–386.
[51] Caroline Backlund, "Art Sales—Sources of Information." *ARLIS/NA Newsletter* 6, no. 4/5 (1978): 67; Lee Sorensen, ed. "Graves, Algernon." Dictionary of Art Historians (website). https://arthistorians.info/gravesa.

*d'estampes* (*Collectors' Marks on Prints and Drawings*) set a high standard in studying painting stamps and marks. There are three editions of the work; the original version of 1921, the supplemented edition of 1956, and the updated version that came out in 2010. The material was carefully classified by the creator of this ambitious project, and ever since the successors remain loyal to this classification.[52] Lugt also compiled the most impressive compendium that provides information on auction sales: the four-volume *Répertoire des catalogues de ventes publiques intéressant l'art ou la curiosité* (1938–1987). The most up-to-date version of this work, listing more than 100,000 art sales ranging 1600 to 1925, is available online.[53] "All catalogues are listed in chronological order, as well as the date, place, origin of each object, the type of objects sold, the number of lots, the library where you can find the catalogue, and the details of the annotations in the catalogue."[54] Another, though less comprehensive, compendium worth mentioning is *Répertoire des catalogues de ventes publiques* (1972, *Catalogue of Art Auction Catalogues*) was compiled by librarians of the Parisian Bibliothèque Forney in the 1930s.[55]

So, the principles of classification, the immanent feature of the Enlightenment that gave impetus to the first inventory catalogues, and the focus on documentary and historicity, sharpened by the French Revolution, in the same way as in archiving, affected the art history and elaborated the scrutiny of art historical provenance research.[56] The art connoisseurship that significantly evolved during the late nineteenth-early twentieth centuries only elaborated the detailed focus on provenance. The other step was dictated by the technological revolution and the invention of photography.

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[52] Backlund, "Art Sales—Sources of Information," 71; Lee Sorensen, ed. "Lugt, Frits." Dictionary of Art Historians (website). https://arthistorians.info/lugtf.
[53] http://tl2.idcpublishers.info/content/aboutlugt.php.
[54] Backlund, "Art Sales—Sources of Information," 65.
[55]
[56] See the second and the third chapters of Part II "Provenance in art history" (pp. 64-74).

This technology sprung off the daguerreotype, introduced in 1839—during the second half of the nineteenth century made tremendous progress, which by the end of the century excelled into the development of photomechanical reproduction techniques. The photography shook not only the provenance methodology, a new level of visual expertise and "the promise of greater 'veracity'" (in comparison to prints and engravings)[57] turned the whole discipline of art history upside down. Or as André Malraux noted, art history became an "histoire de ce qui est photographiable" (history of what could be photographed—trans. mine).[58] Once an expensive technology penetrated the area, over time it got cheaper—equally, art history has become a more accessible discipline in the new democratic landscape—and today looking through photo archives seems almost an inevitable part of any provenance research.

Photo archives usually contain up-to-date photographs of works of art, as well as clippings from sales catalogues and exhibitions. These images can be useful in documenting whether the work has been modified, restored, or shortened—the information particularly useful in identifying works by artists who are known for depicting many versions of the same subject.[59]

The famous Frick Art Reference Library Photo Archive owes its origin to a conversation over tea between the daughter of the coke and steel magnate Henry Clay Frick, Helen (1888–1984) and Mrs. Robert Witt, a wife and comrade of Sir Robert Clermont Witt, the British art historian who pioneered this field and much

[57] Costanza Caraffa, "From Photo Libraries to Photo Archives: On the Epistemological Potential of Art-Historical Photo Collections," In *Photo Archives and the Photographic Memory of Art History*, Dt. Kunstverl., 2011, 15.
[58] André Malraux, *Le musée imaginaire*, Paris 1947, 32. Cit. in ibid., 11n2.
[59] According to the IFAR's Provenance Guide, the most famous photo archives are: Louvre and Musée d'Orsay documentation centres (Paris), Villa I Tatti (Florence), Rijksbureau Voor Kunsthistorische Documentatie (the Hague), Witt Library, Courtauld Institute of Art (London), Zentralinstitut für Kunstgeschichte (Munich), Archives of American Art, Smithsonian Institution (Washington, D.C.), National Gallery of Art (Washington, D.C.), Frick Art Reference Library Photo Archive (New York), Getty Research Institute (Los Angeles) and a digital research platform PHAROS (the International Consortium of Photo Archives). IFAR's Provenance Guide, 5.

more widely known as a co-founder of the Courtauld Institute of Art in London.[60] To date, the most venerable source of photographic documentation for all tortured researchers in the field of provenance is the base of PHAROS[61], an international consortium of photo archives. However, at this point of my narrative I must pause, because between the Frick archive and PHAROS, introduced only in the twenty first century, lies not only in the technological leap of digitalization, but also the historical crossroads that shook the whole of European society—the Nazi era.

So, the accelerated since the beginning of the twentieth century technological progress has incredibly changed the sources used in the study, cataloguing and, accordingly, in the sale of art objects—as well as the dismantling the cradle of provenance into a more archive-oriented and accurate approach the very limits of which were shaken.

Often, provenance guides put on a separate list resources dedicated to study of Nazi looted art. Though the focus of my work is not currents of so-called "degenerate art," the politics of restitution et al., but predominantly the technological shifts that during the last several decades designated the transformation of provenance and to some degree are changing our understanding of the market. So, I will obviously name the main sources for provenance of Nazi looted art in a chapter dedicated to the historical landscape in the next part of the work, and here I would go forward listing the most influential resources, while omitting at this part of the work portals dedicated to the Nazi looted art may be considered as an inherent defect—made on purpose.

Advances in development of the Internet and databases by the 1980s have forced society to reassess the needs for archival knowledge. The pioneers of computers in different fields begin to propose implementing new technologies.

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[60] Louisa Wood Ruby and Samantha Deutch, "Transforming Research Methodologies: The Frick Art Reference Library's Collaborative Approach," in *Collecting and Provenance: A Multidisciplinary Approach*, 61–62. *See also* Robert Witt. "The Witt Library of Reproductions." *The American Magazine of Art* 23, no. 5 (1931): 381–84.

[61] http://pharosartresearch.org.

Already mentioned Lugt's four-volume *Répertoire des catalogues de ventes publiques intéressant l'art ou la curiosité* was among the first large-scale project to be digitized. Lugt donated his oeuvre to the Netherlands Institute for Art History (Nederlands Instituut voor Kunstgeschiedenis), where it was firstly microfilmed and later digitized. The leap through, however, was done by Burton B. Fredericksen who launched the program at the Getty Institute. His Getty Provenance Index[62] was an affluent decisive action inturbidating the whole field of art history. From 1965 to 1984, Fredericksen held a position of first curator at the J. Paul Getty Museum, and bearing in mind the work of the predecessors, such as Lugt, felt, however, that "improved modes of travel now provided better access to foreign libraries, making it possible to assemble information on a much broader and more comprehensive scale."[63] The contribution of Fredericksen was an index of Italian paintings found in nineteenth-century British sales catalogues, he compiled at the times of the beginning of the wholesale digitalization of archives. To be more precise, and this is the main thing: he was the person who made the first bet on digitalization and its "future promises" (*quotations mine*). The then chief executive officer of the Museum and later of the Getty Trust, Harold Williams shared this intuition, willing to "automate" art historical research. As Friedricksen epitomised the moment: "It was at this juncture that computers were suggested as the appropriate medium to assist in the organisation of such large amounts of information. The parents were introduced to their battery of mechanical midwives and set out to learn how to use them."[64] Enough to say that in spite of the Index being processed in computing systems, they permusingly released new data in the form of printed books, and only later, in 1996, the

[62] https://www.getty.edu/research/tools/provenance/search.html.
[63] Burton B. Fredericksen, "The Origins and Early Evolution of the Getty Provenance Index" (unpublished report sent to Christian Huemer in 2015). Cit. in Huemer, "Provenance of Provenances." In *Collecting and Provenance: A Multidisciplinary Approach*, 8n23.
[64] Burton B. Fredericksen, The Index of Paintings Sold in the British Isles during the Nineteenth Century, vol. 1 (Santa Barbara, CA: ABC-CLIO, 1988), xx. Cit. in ibid.

volumes became accessible online—with a now completely obsolete period of CD-ROMs before that.[65]

Another pioneering project, conceived around the end of the 70s, is SCIPIO database. SCIPIO, an acronym for Sales Catalog Index Project Input Online, is the name of a database of art auction catalogues. The idea was born out of a discussion held at the 1978 New York library conference. The discussion, which accompanied by a survey aimed to find out inter alia if there is a request for a shared database of auction catalogues, led to the formation of a group of art library professionals and library systems specialists who took on the responsibilities of creating such a database.[66]

SCIPIO, presented to the public in 1982, provides data of catalogues from the late sixteenth century to scheduled auctions that have not yet been held. The rubrics are such: dates, places of sale, auction houses, sellers, institutional holdings, and work titles. Even though the interface of this database is not as user-friendly as the one of Getty Provenance Index and this database uses a subscription model, SCIPIO is the only resource of this type combining data of more than two dozen different fine arts organisations. However, the database

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[65] Ibid., 8-9. The GPI contains three separate databases for provenance research: archival documents from 1520 to 1880, auction catalogues from 1650 to 1945, and dealer stock books records from 1846 to 1970. There is also a supplement to the GPI, called the Getty Provenance Index: Additional Databases. The Additional Databases include other three clusters of data: collectors' files (with information on international collectors, dealers, auctioneers, and art institutions from the late Middle Ages to the present), payments to artists made in Rome between 1576 and 1711, and public collections, featuring descriptions and provenances of paintings clted since 1500 to 1900 that are held by public institutions in Great Britain and the United States. Interestingly, a number of auction sales records had been extracted from catalogues, and each record was linked to the full PDF of its corresponding catalogue at the Heidelberg University Library. See: https://www.getty.edu/research/tools/provenance/search.html.
Information found on museum websites helps many provenance researchers find clues based on known records of origin. Works of art from a specific artist may have the same original owners, and records of the origin of such works of art at times become intertwined. Ibid.

[66] Katherine Haskins, "Sales Catalog Index Project Input Online (SCIPIO)," *Art Documentation: Journal of the Art Libraries Society of North America* 1, no. 3/4 (1982): 91-92. "SCIPIO Art and Rare Book Sales Catalogs," *Getty Library Blog*, https://blogs.getty.edu/library/2017/07/11/scipio-art-and-rare-book-sales-catalogs/.

clusters only American libraries—though during the following decades its number grew from three—those of the Art Institute of Chicago, the Cleveland Museum of Art, and The Metropolitan Museum of Art—to more than twenty.[67]

SCIPIO was a game-changing projects also because before that auction houses—famous for keeping low profile—have not provided publicly their archives, but for SCIPIO libraries and auction houses reached a common goal; so catalogues issued by Christie's auction house were catalogued by the Art Institute of Chicago, Sotheby's by the Cleveland Museum of Art, and the auction firms under the French auction house Drouot by The Metropolitan Museum of Art.[68]

The process of matching enormous amounts of information sometimes stored in different formats was truly cumbersome; each library could choose the preferable format and as it were common during the first computer years, sometimes librarians preferred to print out lists with bibliographic records and later entered data back into computers.[69] Apparently the process is still not pristine—but in turn, technological development does not stop.

The today researchers also are unlikely to ignore IFAR,[70] or International Foundation for Art Research resources. The IFAR, a New York-based not-for-profit educational and research organisation, has emerged and developed in parallel with the development of digitalization and computerization. IFAR was founded in the very end of the 60s, and initially it was conceived as an initiative aimed to deal with issues of attribution and authenticity, and almost since the beginning IFAR served as a public commodity in the sphere of art history providing its resources to a wide audience, however the scope of problems IFAR

[67] In 2012, the Watson Library initiated a new move in coordination art libraries persuading them to join the project—the libraries at four major art institutions agreed to participate: The Frick Collection, the National Gallery of Art (Washington, DC), the Getty Research Institute, and the Cleveland Museum of Art. Dan Lipcan and Erika Hauser. "Results in the Cloud: Using Web Storage for Auction House Price Lists." *Art Documentation: Journal of the Art Libraries Society of North America* 33, no. 1 (2014): 64.
[68] Ibid., 61.
[69] Ibid., 61.
[70] https://www.ifar.org/.

offers information on became broader than it was at the first years after it launched: authenticity, ownership, theft, and other artistic, legal, and ethical issues concerning art objects. In 1998, they published the first issue of a quarterly journal—widely known within the professional community. Moreover, they organise conferences and lectures, and provide a number of thorough services and tools, that are available on their website since 2008; Catalogues Raisonnés Database which comprises both published catalogues and catalogues in preparation with new information regularly added; Art Law & Cultural Property Database, a comprehensive collection of international legislation and case laws; and the Provenance Guide.[71]

Besides, since 1970, IFAR has offered a unique Art Authentication Research Service. Each year, they undertake a number of authentication research projects, which they lead consulting with specialists within the field. The results of these investigations are as well published on their open sources.[72]

Along with such outstanding projects as Getty Provenance Index, IFAR resources and SCIPIO there are various others: the open access Nazi Era Provenance Portal, or NEPIP,[73] launched in 2003 by the American Museums Association—the database encompassing around 30,000 objects from almost two hundred US museums;[74] Art Index Retrospective and Art Full Text—the leading bibliographic resource providing indexes for art journals and theses;[75]

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[71] IFAR's Provenance Guide. Ibid., Sharon Flescher, Executive Director, International Foundation for Art Research (IFAR), Foreword, *Provenance Research Today: Principles, Practice, Problems*. Ed. by Arthur Tompkins, United Kingdom: Lund Humphries, 2020, 7-8.
[72] https://www.ifar.org/.
[73] www.nepip.org.
[74] Jane C. Milosh and Andrea Hull, "Provenance Research in Museums: From the Back of the House to the Front," In *Collecting and Provenance: A Multidisciplinary Approach*, 40, 52n37; Erica B. Marcus, Nazi Looted Art: Setting Precedence for Museum Decisions [master thesis]. Seton Hall University, August 2010, 29; Lisa Reynolds, *An Art Provenance Research Guide for the Researcher and Librarian* (A Master's paper submitted to the faculty of the School of Information and Library Science of the University of North Carolina at Chapel Hill, 2012), 19.
[75] Art Index Retrospective, New York Public Library (official website), https://www.nypl.org/research/collections/articles-databases/art-index-retrospective; Art

Bibliography of the History of Art, or BHA, a joint effort of the Getty Art History Information Program and the French *Institut de l'informations scientifique et technique* (INIST-CNRS), which indexes and summarises art-related texts from over 4,300 periodicals about European and American art history from late antiquity to the present—these are jumbos. Apart of them, there is a great number of many others, though either less agile or just smaller, focus-oriented databases—for instance those of encyclopaedic nature, such as Artcyclopedia[76] or Art History Resources on the Web.[77] Among others, there are such resources as Conservation and Art Materials Encyclopaedia Online (a database dedicated to technical information in the fields of art conservation and historic preservation, CAMEO)[78]; a highly-estimated among professionals library database FirstSearch[79]; a renowned website on an extensive family collection that bears the name of its founder, the American industrialist Henry Clay Frick (1849–1919)—it unites works of art, books, and documents concerning to the process of acquisition and has a repository online called FRESCO, or the Frick Research Catalogue Online[80] (the less famous, though an exemplary website publishing provenance information on their collection is the website of Morgan Library and Museum, which houses the collection of another American businessman of the Gilded Age, a financier and investment banker John Pierpont Morgan)[81], the Getty Vocabulary Program,[82] a department within the aforementioned Getty

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Index Retrospective: 1929-1984, John Hopkins Libraries (official website), https://databases.library.jhu.edu/databases/database/JHU06594. The database relies on the index of historic scholarly literature on art published in New York annually; the first volume dates back to 1929, and the last was issued in 1984 (currently part of the Art Index Retrospective database). The material after 1984 is presented in the database that since 1999 is called Art Full Text. Roberto C. Ferrari, "Researching Art(ists) on the Internet," *Journal of Library Administration* 43, no. 3-4 (2005): 14-15.

[76] http://www.artcyclopedia.com.

[77] http://arthistoryresources.net/ARTHLinks.html.

[78] http://cameo.mfa.org/.

[79] https://firstsearch.oclc.org.

[80] https://www.frick.org.

[81] https://www.themorgan.org.

[82] https://www.getty.edu/research/tools/vocabularies/obtain/index.html.

Research Institute, that produces the vocabulary databases[83]; and also many art "custodian" (quotations mine) platforms like Art UK[84], which promote, explain, and verify contemporary art with convenient documentation.

*Secondary literature*

The literature on provenance can be divided into two main groups: theoretical and practical. On the previous pages I mentioned mostly the practical resources, and here I would like to scope the other group. Two of the most influential collections of recent years are *Provenance: An Alternative History of Art* (2012), published by the Getty Research Institute and edited by Gail Feigenbaum and Inge Reist,[85] and *Collecting and Provenance: A Multidisciplinary Approach* (2019), edited by Jane Milosch and Nick Pearce from the Smithsonian's Provenance Research Initiative.[86] While Getty Research Institute have been exploring the provenance problems since the 1980s, when they commenced the Getty Provenance Index, the Smithsonian's Provenance Research Initiative (SPRI) was founded in 2008, when the Smithsonian expanded to World War II-era provenance research.[87]

The collection edited by Gail Feigenbaum and Inge Reist was published by the Getty Research Institute as part of their series of questions and debates and traces back to discussions held at several conferences. The editors, however, carefully situate the book in a broader historical moment: "In the last quarter of the twentieth century <...> lighting struck what had seemed a quiet, essentially antiquarian pursuit. Revelations about systematic and extensive Nazi-era looting

[83] For more links, see the aforementioned IFAR's Provenance Guide or the Getty's guide (p. 16 fn. 22).
[84] https://artuk.org.
[85] Gail Feigenbaum and Inge Reist, *Provenance: An Alternative History of Art* (Los Angeles: Getty Research Institute, 2013).
[86] Jane Milosch and Nick Pearce, *Collecting and Provenance: A Multidisciplinary Approach* (Rowman and Littlefield, 2019).
[87] Jane C. Milosch, "Provenance: Not the Problem (The Solution) Smithsonian Provenance Research Initiative," *Collections* 10, no. 3 (2014): 255.

and forced sales ignited heated disputed claims of ownership; these claims posed real-life ethical dilemmas and held legal consequences for prominent stakeholders."[88] This resulted in pressure on museums to investigate the provenance of works in their collections, requiring large investments "in the research necessary to 'clear' the provenance of each work,"[89] and specialists trained in provenance research experienced a spike in demand. (The phenomenon that misses a historical interpretation, though many times was spotted/noted by the press.) Then, in 2004 in Paris a conference was organised, the main aim of which was to reflect "the sheer number of works that changed hands <...> as a direct consequence of revolutions and other political and economic upheavals."[90] The conference materials were published in a book, *The Circulation of Works of Art in the Revolutionary Era, 1789–1848*,[91] and both the conference and the book inspired scholarly circles to arrange another conference, this time in Rome (2007), resulting in a publication entitled *Sacred Possessions: Collecting Italian Religious Art, 1500–1900* (2011).[92] The topics on the agenda remained largely the same, though a different artistic tradition was examined. However, the focus of discussion shifted to how the transfer of religious objects affected their aesthetic value and religious meaning.[93] It became obvious that provenance needs to be reconsidered as a concept, which is no longer an implication of the history of collecting or a mark of a dignified pedigree. Following this, an annual confederation at the College Art Association was organised, meeting for the first time in 2008. The most distinguished texts from this confederation were selected for *Provenance: An Alternative History of Art*.

[88] Gail Feigenbaum and Inge Reist, Introduction to *Provenance: An Alternative History*, 1.
[89] Feigenbaum and Reist, Introduction, 2.
[90] Ibid., 3.
[91] *The Circulation of Works of Art in the Revolutionary Era, 1789–1848*, Roberta Panzanelli and Monica Preti-Hamard, eds. (Rennes: Presses Universitaires de Rennes, 2007).
[92] *Sacred Possessions: Collecting Italian Religious Art, 1500–1900.* Gail Feigenbaum, Galina Tirnanić, and Sybille Ebert-Schifferer, eds. (United States: Getty Research Institute, 2011).
[93] Gail Feigenbaum and Inge Reist, Introduction to *Provenance: An Alternative History*, 2–3.

For the authors of this volume, provenance is much more than just *lists* (italics mine) of owners. They brilliantly conceptualise the historical legacy of the phenomenon in the context of what could be called zeitgeist. The cornerstone of this collection of essays is the idea that a work of art exists in a continuum of time. Decades ago, art historians may have sought to restore the aesthetic and social context of an artwork at the time of its creation; provenance as an independent, rather than auxiliary concept begins with the assertion that artistic and cultural meanings and interpretations are constantly changing with the ebb and flow of historical circumstances. The authors then use origin to trace the biography of the object, borrowing from the methodologies outlined in Arjun Appadurai's *Social Life of Things* (1986), which is often cited in various essays.[94]

The authors of the other, though less conceptually concise, Smitsonian collection also justify their methodology in the anthropology as it was developing in the 1980s, citing in their case Igor Kopytoff: for them "provenance [is] an integral part of collecting history, rather than a mere isolated list of transactions or as a curatorial tool of good practice in museum acquisition."[95]

The editors of the Smitsonian volume promote their volume as an inter- and cross-disciplinary study of the history of collecting.[96] The range of disciplines and expertise this holistic volume is based on is considerable: art history, anthropology, natural history, and law with materials from Europe, the Americas, the Middle East, Africa, and the Pacific. The volume consists of twenty eight chapters and is divided into four sections: "Provenance: Past and Future Challenges," which explores methodologies and provenance as a discipline,

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[94] Arjun Appadurai, ed. *The Social Life of Things: Commodities in Cultural Perspective* (United Kingdom: Cambridge University, 1986). See Feigenbaum and Reist, ed., *Provenance: An Alternative History*, 2, 201.

[95] Nick Pearce and Jane C. Milosh, Introduction to *Collecting and Provenance. A Multidisciplinary Approach*, xv, and Igor Kopytoff's object biography approach cited ibid, xv Igor Kopytoff, "The Cultural Biography of Things: The Commoditization as Process," in *The Social Life of Things: Commodities in Social Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 1986), 64-67.

[96] Pearce and Milosch, Introduction, xvi.

"Objects in Motion," dedicated to a selection of case studies of different objects through times and places; "Museums and Collection Formation: Provenancing Art and Nature," as its name suggests, explores institutional relationship with provenance; and the last section "Provenance and Collecting Policies: Practical, Legal, and Ethical Challenges," in turn, is a meditation on the moral, truthfulness and possible legal solutions for issues surrounding the collecting practice.

Another collection of essays dedicated to the art provenance compiled and edited a district court judge Arthur Tompkins, "Provenance Research Today,"[97] was co-published with the International Foundation for Art Research, and is less theoretical and more practical-oriented, aimed not to the scholar public but to the wide readership from collectors and dealers to the art lawyers.[98] In addition to these texts, there are articles devoted to particular provenance issues surrounding specific works of art or theoretical works by scholars, librarians, and other professionals on issues they have faced in their fields.

Besides, it is impossible not to mention the two prolific works dealing with the historiographic aspects of the World War-II provenance: it is the seminal work by Lynn Nicholas *The Rape of Europa*,[99] a brilliantly compiled and written history of Nazi art plunder during and after Second World War, and published in 2001 by the American Alliance of Museums: *The AAM Guide to Provenance Research*.[100] *The AAM Guide* is divided into two halves: the first tells about the fundamental research that goes into assembling provenance, and the second part describes the period of World War II in the context of the study of provenance in more detail. It also contains very useful appendices, including bibliographies of

[97] Arthur Tompkins, ed., *Provenance Research Today: Principles, Practice, Problems* (UK: Lund Humphries, 2020).
[98] Sharon Flescher, Foreword to *Provenance Research Today*, ed. by A. Tompkins, 7.
[99] Lynn H. Nicholas, *The Rape of Europa: The Fate of Europe's Treasures in the Third Reich and the Second World War* (United Kingdom: Random House Digital, Incorporated, 1994).
[100] Nancy H. Yeide, Konstantin Akinsha, Amy L. Walsh, *The AAM Guide to Provenance Research* (American Association of Museums, 2001).

collections, dealer archives and "red flag names"[101] compiled by the CIA's predecessor, the Office of Strategic Services (1942–1945). In comparison with more profound historical books, *The AAM Guide* only briefly discusses the history behind Nazi collecting provenance and pays much more attention (in keeping with its purpose as a handbook) to how the research should be prioritized.

The advent of numerous databases, guidelines and the publication of monographs dedicated to the art provenance as socio-cultural phenomenon, is the digitalization and the exponential growth of information. The development of the art market, as well as the fact that a great deal of the art appearing on the market, "usually of European origin, <…> has provenance gaps from 1933–1945"[102] determines the scope of secondary literature.

[101] Lists of "red-flag" names are intended to indicate that further research is needed. For example, the names compiled to *Biographical Index of Individuals Involved in Art Looting* prepared by ALIU (Art Looting Investigation Unit, a special US intelligence unit; available at http://docproj.loyola.edu/oss1/toc.html). AAM, 51.
[102] Reynolds, *An Art Provenance Research Guide*, 3.

## Part II. Provenance in art history

### *The problem of art forgery*

The modern art work, as the author of *Art Forgery: The History of a Modern Obsession*, Thierry Lenain notices, is defined by the *individual being* (italics—TL) it encapsulates. It is already reflected in writings of Vasari on Michelangelo's and Leonardo's drawings. The individuality of the work is triple: it consists of "the object, the label, the aesthetic and rhetorical qualities of its container,"[103]—where the object is, as a rule, the material piece, the label its pedigree and provenance, while the aesthetic and rhetorical qualities are something very elusive and transitory, indicating the object is a contextual essence.[104]

Both these factors formed the special art institutions that seduce the public to enjoy art as a product of human individuality. The detailed process of formation of provenance that numbers several threads over a course of several centuries barely could be reduced to a formal scheme I propose in the introduction, but for the sake of simplicity it could be said that the formation of provenance reacts to the evolution of art crimes—that is art plunder and looting and art forgery. The evolution of art forgery in comparison to the evolution of art plunder is a less abrupt process. If to dissect the threads concerning the art forgery, they are: the formation of the art market in the Renaissance Italy, its rapid development and spread across Europe, the forgery itself as almost a natural reaction to the emergence of a market, practices of restoration that during several centuries remained very liberal, while "restored" objects dissolved into loads of forgeries, the first catalogues that are kindred to the inventory books of those of wealth and rooted in the desire to catalogue, or fit into a comprehensible form scattered facts of reality. Beyond that, the evolution of provenance stems from the very evolution

[103] Thierry Lenain, *Art Forgery: The History of a Modern Obsession* (London: Reaktion, 2011): 167.
[104] Lenain, *Art Forgery,* ibid.

of artistic forms, which even over the past few decades converged into a rainbow: the photography, the mass production of Andy Warhol, the video art, to name but a few. All of these market historical factors along with the technical development merged up into the rise of technical expertise. The better expertise, the more refined forgeries we have.

Even though selling of a very dim painting or a drawing could be carried without provenance documentation, forgers sometimes prefer riskier moves, which could bring them more profit and, consequently, require a more thorough and detailed examination and pre-work. There is no specialist who would be ready to give an exact figure of fakes on the market, however, many would agree that flooding the art market with counterfeit resembles an epidemic.[105]

Below I review the historical way the forgery had come during the last centuries. But firstly, let me review the terminology. Some specialists prefer to distinguish a "'forgery' from a 'fake,' with one pairing of the terms separating a work that is false at its inception from the fraudulent alteration of an existing work and another pairing that differentiates copying an artistic style from making a replica of a specific work."[106] In other words, the first term is used to denounce the deceit to vilify, and "fake" to denounce the absence of such). Other authors use these terms interchangeably, resorting to synonymous words "counterfeit," "false," and "fraudulent."[107] Besides, there is another notable twist: art forgery per se is not considered a crime in most legal systems, whether to consider it a

[105] Different authors give different numbers: from 10 to 50 and even more percent. See William Casement, *The Many Faces of Art Forgery: From the Dark Side to Shades of Gray* (United States: Rowman & Littlefield Publishers, 2022), 204-205.
[106] Casement, *The Many Faces*, 5; Duncan Chappell and Saskia Hufnagel, "Case Studies on Art Fraud: European and Antipodean Perspectives," in *Contemporary perspectives on the detection, investigation and prosecution of art crime: Australasian, European and north American perspectives*. Ed. by Hufnagel and Chappell (Ashgate Publishing, Ltd., 2014), 58.
[107] For the further discussion on the terminology, see also Joseph Margolis, "Art, Forgery, and Authenticity," in *The Forger's Art*, 160-162. Or Duncan Chappell and Kenneth Polk, "Fakers and Forgers, Deception and Dishonesty: An Exploration of the Murky World of Art Fraud," *Current Issues in Criminal Justice* 20, no. 3 (2009): 7-10.

crime or not depends on circumstances. In the USA, the UK, Germany and Russia art forgers are prosecuted for fraud and other crimes such as tax evasion.[108]

In my work, I intend to ignore the discord between these words mostly because the omniscience pulls abstruseness and, thus, disorientates the reader; and secondly this would pull us into unnecessary legal jungle across many cultures.[109]

Throughout history, artists have copied the works of their predecessors, but rarely with intent to deceit—the phenomenon of art forgery today is considered to be a historical novelty of the Renaissance.[110] Luxury villas of Roman aristocrats were filled with copies of famous Greek sculptures, and these Praxiteles and Pheidias—even though they could have inscriptions bearing the name of the Greek original author—were rather perceived as larger aesthetic ideals, not as defined singularities. According to the prevailing attitudes among today's scholars, none of the Romans thought to diminish their value on the basis of authenticity; no one would think that the copyists were indebted to the authors of the original. It must be noted that the Roman judicial system had specific laws against counterfeit documents and currency and none against art forgery.[111] After all, sculptures were made of the same marble and the process of chiselling took

[108] Casement, *Too Many Faces*, 12. "The Federal Service for Supervision of Mass Communications, Communications and Cultural Heritage Protection proposes to introduce a criminal article for counterfeiting works of art and their sale," *Interfax*, April 11, 2008, https://www.interfax.ru/culture/8706. In Russia, for example, in such cases the article "Consumer Fraud" is used. Ibid. See also Duncan Chappell and Saskia Hufnagel, eds. *Contemporary Perspectives on the Detection, Investigation and Prosecution of Art Crime* (Routledge, 2016). For example, ibid., 3-4.

[109] Henry Keazor, "Six Degrees of Separation: The Foax as More," in *Faking, Forging, Counterfeiting: Discredited Practices at the Margins of Mimesis*, edited by Daniel Becker, Annalisa Fischer, and Yola Schmitz, (Transcript Verlag, 2018), 14

[110] Alexander Nagel and Christopher S. Wood, "Interventions: A New Model of Renaissance Anachronism," *Art Bulletin* 87, no. 3 (2005): 413; Sandor Radnoti, *The Fake: Forgery and Its Place in Art*, Lanham, (Maryland: Rowman and Littlefield, 1999): vi; Thierry Lenain, *Art Forgery: The History of a Modern Obsession* (London: Reaktion, 2011): 13.

[111] Fritz Mendax. *Art Fakes and Forgeries* (London, 1955), 33.

the same time and required almost the same degree of talent as sculpting the originals.[112]

The Middle Ages, and here most scholars agree, did not know the concept of art forgery as well.[113] Here two things are important. Firstly, the mediaeval conception of art deserves a brief reminding: nameless mediaeval artists did not compete with each other, but sought to manifest the divine essence. The value of artworks was not based on its attribution and originality, but mainly on their adherence to prototypes and the level of craftsmanship. Copying was a part of normal creative process, sobeit modifications of the prototypes should be sedate and only stylistic; if abrupt, they should be considered an excess and a deviation from the canon.[114] The nameless creator scarcely ever can be forged.

Notwithstanding, and that is the second thing: the counterfeiting of relics is characterized via the notion of originality. The Christian cult of relics, known since the beginning of the religion, was already well established in the fourth century and thrived until the seventeenth century; the cult reached its peak, as some authors notion, in the Late Middle Ages and was more tenacious in Italy and Central Europe. Relics and precious objects of worship combine objects of material culture that are disposed of with the aim to attract piligrims—for instance, bones or body parts of saints and martyrs, and in some cases, bones were kept in artfully made cases called reliquaries.[115] As Lenain writes, such medieval goods connected to the divine occupied a niche that, if we are looking for an analogy, could be compared to the place artworks and curiosities take in

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[112] To outline the issue I must say that the question whether the ancient Romans were art forgers lies in the field of terminology; to stay on a safe side, we must admit the existence "of a significant trend of devious activity involving artworks." William Casement, "Were the Ancient Romans Art Forgers?," *Journal of Art Historiography*, vol. 15 (2016), https://arthistoriography.files.wordpress.com/2016/11/casement.pdf.

[113] Thierry, *The Art Forgery*, 148. To some extent this is a simplification; Thierry, for instance, argues that the notion of fake art as offensive emerged only as a trend of late modernity. Ibid., 19.

[114] Thomas Hoving, *False Impressions: The Hunt for Big-Time Art Fakes* (New York, 1996), 24.

[115] Lenain, *Art Forgery*, 75-85.

modernity.[116] Forging a bone or even body part of a deceased saint was a reliable get-rich-quick scheme for mediaeval scammers. In European churches and monasteries, one could find a total of six heads of the Apostle Andrew, twelve heads of John the Baptist, and twenty-six heads of Saint Julian, not to mention numerous smaller body parts of these and other saints. An excellent example came from one Genovese church, where parishioners were shown the "brain" of Apostle Peter, which later turned out to be a piece of pumice.[117]

In the second half of the fifteenth century, the European art market began to take shape; that is linked to a growing interest in antiquities and classical manuscripts and Europe's rediscovery of Antiquity, which spurred after the Italian poet Petrarch turned to adoration of the previous epoch.[118] Along with new burgeoning trends that had seduced creators to shed the anonymity of craftsmanship and step into the rails of individualism, the cult of relics paved the way towards the art business as we know it today. In that period, the educated people redirected their attention from holy relics to ancient artworks, but retained their previous attitude toward such artefacts. Rich patrons were willing to pay good money for ancient sculptures, vases and coins, all while snubbing contemporary artists who were able to create original works of equal quality to their ancient counterparts.[119] Soon, however, artists figured out how to right this injustice.

In 1496, a young and unknown sculptor, Michelangelo Buonarroti sculpted a *Sleeping Eros*, no different from available ancient samples. In those years, the novice sculptor was driven by money rather than fame, and decided to sell his creation under the guise of an ancient statue. The future Titan of the Renaissance

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[116] Ibid., 84.
[117] Cit. in Henry Martyn Baird, *History of the Rise of the Huguenots of France*, vol. 1 (2004), 50.
[118] Leah R. Clark, *"Collecting, Exchange, and Sociability in the Renaissance* Studiolo*,"* *Journal of the History of Collections* 25, no. 2 (2013): 173-174, 176.
[119] Hoving, *False Impressions*, 51–53.

buried Eros in the ground along with a mix of oxidising substances, and when it was dug up, the sculpture looked as if it had lain underground for several centuries. Michelangelo sold the sculpture to the antique dealer Baldassare del Milanese, who in turn resold it to Cardinal Riario. The cardinal understood that it was a forgery, returned the sculpture to del Milanese, and demanded his money back. Yet Riario was so impressed with the young sculptor's talent that he allowed Michelangelo to keep his share of the fee and even invited him to Rome.[120] Thus, it would not be an exaggeration, then, to say that the brilliant career of the future great sculptor began with a fake.

In the fifteenth century, the vivid art trade flourished in Florence, later in Northern Europe, Bruges began to play the comparable role: one went to Florence for the monuments of antiquity, while Bruges specialised in the works of modern authors.[121] It was then that the art market began to link value to demonstrable authorship. The demand for art was constantly growing in the blossoming merchant cities, and soon artists of the Renaissance—even though the prices commanded by them were less than for antiques—began to notice that their works were being faked.[122] We could say that the next step after the forgery of antiquity was the forgery of contemporaries.

So, for example, as Karel van Mander writes about Goltzius: he was the one who enjoyed copying as a challenge, preferring to stay incognito, while

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[120] The story is known thanks to the famous anecdote told by Vasari and Condivi. Vasari, *Lives of the Painters, Sculptors and Architects*, trans. Gaston de Vere (London, 1912, reprinted 1996), Vol. II, 650; Condivi, *Vita di Michelangelo*.
Lenain highlights an interesting point: Vasari uses the epithet "relic" a couple of times when refers specifically to significant and precious artworks by Michelangelo, endowed an artwork "with the status of a relic of its author." Lenain, *Art Forgery*, 8. See also ibid., 151-162.
[121] De Marchi, Neil, and Hans J. Van Miegroet. "The History of Art Markets," 70; Lorne Campbell, "The Art Market in the Southern Netherlands in the Fifteenth Century," *The Burlington Magazine* 118, no. 877 (1976): 188–98.
[122] So, the poet Petrarch bought copies for the collection if he could not find the original of a work. Françoise Benhamou and Victor Ginsburgh, "Is There a Market for Copies?," *Journal of Arts Management Law and Society*, no. 32 (2002), 9.

Albrecht Dürer is known to be forced to cope with copyists.[123] He was extremely annoyed by hordes of imitators, and in one of his works, he even made an inscription: "Be cursed, plunderers and imitators of the work and talent of others. Beware of laying your audacious hand on this work."[124] But no curses from the copyright holders could stop the manufacturers of fakes, whose ranks were constantly replenished. Another spicey anecdote is told about Albrecht Dürer—the story of the first attempt to prosecute copyright intrusion in art. In 1506, Dürer went to Venice to lodge a complaint against printmaker Raimondi, who selled copies of Dürer's prints there; and here is the most poignant part of the story—Raimondi, who is known for his work for Raphael (it is he who engraved numerous of Raphael's works and thus disseminated visuals of High Renaissance) not only copied Dürer's prints, but also reproduced his famous monogram. The ruling obliged Raimondi to cease using it, but the posterior copying was deemed legitimate. Later in his home city of Nuremberg, Dürer lodged a similar claim against another copyist, and received a similar decision.[125]

In respect to legal aspects, the names of those involved in forgery or suspected were known, but the attitudes toward it differed from the respect for virtuosity and talent, as in the Vasari-Michelangelo case, "to an outcry over the harmfulness of commercial fraud, and the rudimentary state of prosecution against forgery under the law acknowledged an element of wrongdoing but often allowed blatant actions to occur with impunity,"[126] as could be seen in the Dürer example. The signature often provided commercial advantage, but, even despite

[123] See Thierry, *Art Forgery*, 198–200. Karel van Mander cited ibid. *The Lives of the Illustrious Netherlandish and German Painters*, ed. Hessel Miedema (Doornijk, 1994), 398. Though numerous copyists worked for the money purpose only and not performed the witty play mocking the experts, as Goltzius did. One very prolific Renaissance copyist, Denis Calvaert (1540–1619) worked in the manner of Michelangelo and Raphael. His drawings penetrated as originals into collections of Cardinal d'Este and many others. Thomas Hoving confessed that he may have been responsible for one of them entering the collection of the Metropolitan Museum of Art during his years in office. Hoving, *False Impressions*, 57.
[124] Casement, *Too Many Faces*, 20.
[125] Ibid.
[126] Ibid., 21.

the Dürer's case, which is very special due to the unique position the artist took, its usage during the Renaissance did not signify the legal rule.

Different deceptive practices developed during the Renaissance. Sometimes, skilled copying, sometimes different practices of artificial ageing objects: artisans damaged new works to restore them after, so that these objects looked antique. For instance, an artisan Pietro Maria de la Brescia buried in the ground porphyry vases and heads and subjected to cracking to simulate antiques.[127] In addition to that, the restoration and versatility of its methods resulted in the evolution of forgery as well. The toughening up of restoration standards occurred only in the nineteenth century.[128]

The studio system of the Baroque period also amassed the forgery. The works created in collaboration per se are close to fakes: they either hide the identity of *the* artist (italics mine), or can be easily forged. Sometimes, forgers double-jobbed, working as an assistant or copyist in a studio and counterfeiting others' works.[129]

In the eighteenth century, it became clear in the most important centres of the art market that buyers were guided not so much by the aesthetic merits of the work as by the authorship and the worthiness of the tastes of the previous collector. During this period, the first catalogues evolved from the collection inventories "disguise" (quotations mine) the value of works under the mask of the pedigree of these works—here we can for the first time speak of provenance as a chain of illustrious owners.[130]

During the seventeenth and further centuries, the art market changed its centres: in the seventeenth century, thanks to a rapid economic growth, London became one of the leading centres, later London and Paris connoisseurs dictated

[127] Ibid., 18.
[128] Casement, *Too Many Faces*, 17.
[129] Casement, *Too Many Faces*, 17, 24-26.
[130] See chapter "The new type of auction catalogues in the eighteenth-century France," on pp. 64-69.

tastes instead of Florence and the Netherlands to the rest of Europe.[131] Another factor that spurred an already busy market, was the emergence of the first public art museums in the second half of the eighteenth and nineteenth centuries. Some of them had been before court galleries like the Hermitage, founded in 1764, which in 1852 opened its doors publicly or Prado nationalised in 1868, a half a century after its founding—others initially were public like the Louvre, opened in the post-Revolutionary Paris in 1793 or the British National Gallery founded in 1824.[132] As William Casement observes, public exposure to art that only continued to grow in the nineteenth century "contribut[ed] to an expanded market and a further proliferation of forgeries."[133]

The collecting of precious objects and art under the growing demand grew in popularity and led to emergence of the public auctioneering system rooted in grandiose art sales of the estate of the nobility.[134] One of the historic sales took place in London in 1742. During this auction the rich collection of Edward Harley, 2nd Earl of Oxford was sold. A painting by an unknown artist was priced lowest, with a winning bid of five shillings. But a painting by Van Dyck fetched 165 guineas—693 times more. This was when the easiest mode of forgery was born: passing off the work of an unknown master for the work of someone famous. This is what an English artist did, who at the beginning of the eighteenth century sold the Duke of Devonshire a painting by an unnamed Flemish painter by passing it off as a work of Jan van Eyck.[135]

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[131] Pamela M. Fletcher, "Creating the French Gallery: Ernest Gambart and the Rise of the Commercial Art Gallery in Mid-Victorian London," *Nineteenth-Century Art Worldwide* vol. 6, no. 1 (2007), http://www.19thc-artworldwide.org/spring07/143-creating-the-french-gallery-ernest-gambart-and-the-rise-of-the-commercial-art-gallery-in-mid-victorian-london. De Marchi and Van Miegroet, "The History of Art Markets," 90-91.
[132] See Carole Paul, ed., *The First Modern Museums of Art: The Birth of an Institution in 18th- and Early-19th-century Europe* (Norway: J. Paul Getty Museum, 2012).
[133] Casement, *Too Many Faces*, 28.
[134] Shireen Huda, *Pedigree and Panache: A History of the Art Auction in Australia*, (Australia, ANU E Press, 2008), 8.
[135] Hugh Chisholm, "Art Sales," In *Encyclopædia Britannica*, vol. 2 (11th ed.), 699–700.

During the nineteenth century, thanks to the rediscovery of Orient, Europeans were treated to the influx of the material culture of Etruscian, Sarmatian and even Sumerian that excited both scholars and dealers and collectors. Eventually, the early nineteenth century "was gripped by [the] art-collecting mania."[136] And quite logically, all this provoked a boom in fakes.[137] Some of them were elusive, others were easily dismantled thanks to obvious anachronisms.[138]

The expert art analysis in the nineteenth century was in its infancy, while the methods of creating fakes were quite advanced thanks to the industrial revolution and the development of crafts that was forced by the market demand.[139] While forensic analysis, such as fingerprinting and X-ray, was just developing and was not applied to the art history, what increased number of collectors had to rely on was the connoisseur analysis. Thanks to Giovanni Morelli (1816-1891) and later theoreticians of attribution this idea penetrated into wider artistic circles.[140] Though as modern scholars observe, similar ideas have already been

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[136] Thomas Hoving, *False Impressions: The Hunt for Big-Time Art Fakes* (New York: Touchstone, 1997), 68.

[137] Hoving, *False Impressions*, around 67-69; Mark Jones, Paul T. Craddock, and Nicolas Barker, eds. *Fake?: The Art of Deception* (Univ of California Press, 1990), 161-162.

[138] One of the most famous stories of an antique falsely attributed to a period of ancient history which nevertheless remained in its museum is about an "Etruscan" sarcophagus. The sarcophagus was bought by the British museum from an art dealer and collector, Alessandro Castellani (1823–1883). Though from time to time it was hinted that the work was a forgery, it stayed on display till 1935 as if it were an artefact of the sixth-century Etruscan civilization. The composition of the cover has a sculpture of a man and woman reclining along it. A few years after the purchase, Alessandro Castellani's brother Pietro claimed that he fabricated it. However, the incident was hushed up until experts looked closer and were bewildered by the fact that the man was naked, typical of Etruscan sculpture of that period, but that the woman was depicted in pantaloons similar to those worn by ladies of the nineteenth century. Only after that, in 1935, the museum staff removed the sarcophagus from the exhibition. The peculiar part of the story is that the image of this sarcophagus still circulates in literature on art history and visual culture. Astrid Swenson. "Under False Pretenders," in *Time Travelers: Victorian Encounters with Time and History*. Ed. by Adelene Buckland, Sadiah Qureshi (University of Chicago Press, 2020), 112–113.

[139] Jones et. al. *Fake ? ...* , 161.

[140] Johanna Vakkari, "Giovanni Morelli's 'Scientific' Method of Attribution and Its Reinterpretations from the 1960's until the 1990's," *Konsthistorisk Tidskrift* 70, no. 1-2 (2001): 46-54.

expressed in the Renaissance: Giulio Mancini (1559–1630), physician and art collector, stressed the importance of the painter's idiosyncratic use of the brush as one of the most important manifestations of the artist's individuality.[141]

Another factor that proliferated knowledge about art and, thus, made it available for purchase by wider classes were art dealers, who came on the scene already in the early fifteenth century and then served as personal advisers of monarchs and others of riches, by the turn of the twentieth century had taken over the market; it is when such star dealers as Paul Durand-Ruel (1831–1922), selling and promoting the Impressionists, and Ambroise Vollard (1866–1939), selling, in turn, the Post-Impressionists. Also, it was the time when the iconic art galleries Colnaghi in London and M. Knoedler in New York established the highest reputation in the art world.[142]

Most nineteenth-century fakes were revealed only in the twentieth century, because it was at that time that the number of fakes began to decline, and the expertise, in turn, gained momentum. In 1930, the director of the Morgan Library was asked to authenticate *The Betrothal of Saint Ursula*. This painting was reproduced on the cover of *Art News* for 14 December 1929 as purported by Jorge Ingles (the fifteenth-century Spanish painter, but English by birth). The unknown author was dubbed by the art critic as the "Spanish forger." Later on, the professional community agreed that at the turn of the century this prolific and undoubtedly talented imitated almost a hundred mediaeval works.[143] Another notable story is about fake enamels: the Russian collector Mikhail Petrovich Botkin (1839–1914), intending to impress his competitor in collecting,

[141] Lenain, *Art Forgery*, 203-209.
[142] Casement, *Too Many Faces*, 29-30.
[143] Janet Backhouse, "The 'Spanish Forger.'" *The British Museum Quarterly* 33, no. 1/2 (1968): 65–71; Lydia Pyne, "In Pursuit of the Elusive Spanish Forger," *Literary Hub*, October 28, 2019, https://lithub.com/in-pursuit-of-the-elusive-spanish-forger/; Lee Lescaze, "The 'Spanish Forger'—A Mystery Show," *The Washington Post* (May 21, 1978), https://www.washingtonpost.com/archive/lifestyle/1978/05/21/the-spanish-forger-a-mystery-show/66126cd7-4ba0-4a54-af69-1926bf6e94c6/.

commissioned the creation of pseudo-Byzantine enamels of the tenth-twentieth centuries. Finally, his enamels were sold at an auction and made their way to Europe and America. And only in the 1980s some American scholars provided evidence that these enamels are stylistically keen to the studio of Fabergé, and are a sharp example of anachronism: Botkin's artisans produced "sexier items than the ancient Byzantines."[144] The faces of saints are "distinctive, insipid, smooth, with impossible high temples and pointed chins."[145]

The scams of the Spanish counterfeiter and Botkin's enamels were revealed thanks to thoughtful sight and imprinted anachronisms. However, as I mentioned earlier, more and more often such "discoveries" were made with the help of forensic analysis. Forensic analysis for the first time was applied in the 1930s during the trial of Otto Wacker (1898–1970), who was tried for bogus Van Goghs.[146] Scientific testing can rarely prove authorship, but they can often demonstrate inauthenticity.[147]

The twentieth century met a decline in faking: rather simultaneously the different stylistic exuberances came out of fashion, the deepening of scientific consciousness, the development of cataloguing and restoration standards became stricter. Jones, Craddock and Barker write that stories and scandals with fake works of art have become familiar in the pages of the nineteenth century press,[148] but art historians really took up the fight against fakes in the twentieth.[149] And so

[144] Hoving, *False Impressions*, 78.
[145] Ibid., 79.
[146] Stuart James Fleming, *Science and the Detective: Selected Reading in Forensic Science* (Germany: Wiley), 2008, 5.
[147] Noah Charney, "Profiling Art Forgers," In *The Palgrave Handbook on Art Crime* (Palgrave Macmillan, London, 2019), 289.
For further literature, see Fleming, *Authenticity in Art*; Jehane Ragai, "The Scientific Detection of Forgery in Paintings," *Proceedings of the American Philosophical Society* 157, no. 2 (2013): 164-175 and Suzanne Bell, *Fakes and Forgeries* (United States: Facts On File, Incorporated, 2010).
[148] Jones et. al. *Fake ?...* , 161-162.
[149] Ibid., 235.

the falsifiers get into high-profile stories that, in a historical perspective, lead them to star status, though their fame, as astutely remarks Jones and coauthors, rested more on the prestige of the artists whom they faked, than any talent of their own.[150] The first sign was Alceo Dossena. However, the attention of the general public to the person of the forger and his place in the history of art was attracted by the famous trial of Han van Meegeren.

The name of an Italian artist Alceo Dossena (1878–1937) was inscripted into the range of the most prolific art forgers thanks to a dishonest art dealer Alfredo Fasoli, who resold Dossena's works to museums and collectors under the guise of originals.[151] Actually, Dossena brilliantly imitated styles of different epochs—no matter what era the works belonged to: he could paint like Simone Martini (1284–1344) and sculpt like Donatello (1386–1466), but it never occurred to him that he was doing something illegal—instead he believed that he would be appreciated as a master of stylization. But his talent was appreciated and exploited by the aforementioned Fasoli. Dossena's marbles were displayed at many museums, for example, at the Cleveland Museum of Art or Metropolitan Museum of Art, and bought by the outstanding collectors of that time such as Helen Clay Frick. In 1928, when Dossena himself discovered that his works were being exhibited in museums as Renaissance masterpieces. The artist was extremely outraged: Fasoli had bought his work for a pity, and sold it for many times more than that. Dossena sued and won his case, receiving a very substantial

[150] Ibid.

[151] Though Dossena is more famous among Italian specialists and art lovers, there are a couple of exemplary articles in English and even a book: "Forgery in Art. Alceo Dossena and Italian Renaissance Sculpture (exhibition press release)," Museum of Modern and Contemporary Art of Trento and Rovereto, curated by Museum of Modern and Contemporary Art of Trento and Rovereto (October 2021–February 2022), from an idea by Vittorio Sgarbi, curated by Dario Del Bufalo and Marco Horak. https://www.mart.tn.it/en/mostre/forgery-in-art-alceo-dossena-and-italian-renaissance-sculpture-149667; "Alceo Dossena, 55, Italian Sculptor; Known in Art Circles Here as Maker of Renaissance Fakes—He Dies in Rome," *The New York Times* (Oct. 12, 1937), 25. *The New York Times* Archives, https://timesmachine.nytimes.com/timesmachine/1937/10/12/94437709.html; David Sox. *Unmasking the Forger: The Dossena Deception* (Universe Books: New York, 1988).

compensation. Inspired by his legal success, the artist decided to arrange a solo exhibition at the Metropolitan Museum of Art in New York, but it left him bitterly disappointed. In the era of the avant-garde, his skilled stylizations were of no interest to anyone. The rest of his life was no better: in 1933, many of the artist's works were sold at the auction, and five years later, the skillful imitator died in poverty.[152]

Han van Meegeren (1889–1947), the most famous forger of the twentieth century, turned to forgery after gradual decline in popularity as a young artist, when critics began to note a contrast between his technical facility and lack of psychological penetration. A good portrait painter, a realist, an artist who for some period of time tried to embody Symbolism in his works, he nevertheless was alienated from the art establishment, and in 1923 to maintain his income he turned to forgery. His first excursion into forgery did not go smoothly; even though his first Hals were authenticated by Hofstede de Groot and sold through an auction firm, in a few months when the auctioneer returned with the news that the work should be a forgery and the following judgement, de Groot hasted to buy the work for his own collection due to keep the situation silent. Such first try educated Meegeren from then on to sink deeper into technical details, and he continued with other "replicas" of Old Masters.[153] During the next decade he earned about 5,5–7 million guilders from the fake trade, which corresponds to $30 million today. Some of his works longer, some less retained the status of authentics in the eve of emerging an expert community. As Johathon Keats writes, the system of authentication and, in general, "the integrity of traditional lines of authority" were doubted by the penetration of ersatz Vermeers to major museums, such as the

[152] Sox, *Unmasking the Forger*, 37–62.
[153] Hope B. Werness, "The Forger's Art," 4-18, 22-23.

Boijmans Museum, in Rotterdam.[154] Another art historian Hope B. Werness, in her essay, speaking of such a fruitful forger's path rests in critics' venality.[155]

Meegeren's hoax reached its apogee in 1937, when he painted *Supper at Emmaus* in the style of Vermeer. For this work he tried his best: he made paints using old technologies and used brushes made of badger hair, which Vermeer himself used. Moreover, his painting fit into the popular belief among scholars about "the Italian influence" on Vermeer—that is, that Vermeer had been to Italy and was inspired by Caravaggio, spoken at the beginning of the century.[156] A prolific art critic Abraham Bredius in *The Burlington Magazine for Connoisseurs* declared *Supper at Emmaus* one of the best pictures ever painted by Vermeer. Meanwhile, the fact that the new Vermeer looked too modern, subtly resembling works of German artists of the 1920s and 1930s, didn't convince art professionals to question the authentication[157]—even though, for example, the Duveen agent in a telegram he cabled to the boss after seeing the painting called it "a rotten fake."[158]

Seven years later after the painting entered the museum, in 1945 van Meegeren was caught up by Dutch police on charges of selling another Vermeer painting to the Nazi officials. During the trial van Meegeren decided to reveal that it is a fraud frightened to be convicted in collaboration; and was forced to confess other forgeries. To substantiate his confession with facts, he created one more Vermeer in front of a court-appointed panel of experts. The court sentenced to a year in prison for fraud, but a year later he died suddenly in custody due to illness.[159]

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[154] Jonathon Keats, *Forged: Why Fakes Are the Great Art of Our Age* (Oxford: Oxford University Press, 2013), viii.
[155] Werness, "The Forger's Art," 22.
[156] Keats, *Forged*, https://erenow.net/common/forged-why-fakes-great-art-our-age/4.php.
[157] Keats, *Forged*, ibid.; Werness, "The Forger's Art," 27.
[158] Keats, *Forged*, ibid.
[159] Keats, *Forged*; Casement, *Too Many Faces*, 38-39.

During the trial he posed as a talented Dutch painter who was forced to take on a steep path of forgery as the art market of the 1930s had little interest in contemporary realists. But in general, his line of defence was based on flipping facts.[160] He insisted that he wanted to disclose the truth after the amazing acceptance of his fake paintings, however, money was a sequence and he dropped this idea. After the trial, another uncomfortable truth revealed: that Meegeren was a very active profit-driven forger since the 1920s, and besides, his collaboration with the Nazis was not a unique case.[161] As Thierry Lenain formulates, "he said exactly what needed to be said in order to impress the audience while alleviating the charges brought against him."[162]

The process drew international attention and made Meegeren a Holland celebrity. When he claimed to be the author of the *Supper at Emmaus*, "the art world was shaken to its foundations."[163] The painting was revered to be one of the major works by Vermeer and thanks to the specific Meegeren's manner shaped new Vermeer.[164] The trial of Han van Meegeren set a new trend in the profile sphere: the defendant sought to show himself as a kind of revolutionary underground worker fighting against injustice in the art world.

The stories of revolt against the art establishment, definitely, can be broadened. In the early 1960s, the British artist Eric Hebborn (1934–1996) got a job in a restoration shop. At first, Hebborn simply updated old paintings, and then the owner proposed to him to "restore" paintings on blank canvases. Thus, young Hebborn began his own career as a forger. Thereupon, making a living as an art dealer for most of his life, Hebborn nevertheless got addicted to this occupation. Obviously, he had no ambition to become a full-fledged artist—unlike, say,

[160] Wynne, *I Was Vermeer*, 59. Cit. in Casement, *Too Many Faces*, 148.
[161] Lenain, *Art Forgery* , 33. Lenain refers to the book of Jonathan Lopez, *The Man Who Made Vermeers: Unvarnishing the Legend of Master Forger Han van Meegeren* (Orlando, FL, 2008).
[162] Ibid., 34.
[163] Lenain, *Art Forgery*, 16.
[164] Keats, *Forged.*

Meegeren had; soaking in the old aesthetics and historicism, he aimed to bypass "neurotic, desperately extrovert and egocentric" art of the twentieth century.[165] And beyond that, he, apparently, disdained the art establishment believing experts were his opponents.[166]

And when in 1964, he moved to Rome and opened a gallery, he exhibited and sold there copies of paintings and drawings by Rubens, Brueghel, Poussin, Van Dyck, Corot and other great masters—mixing them with the legitimate works.[167] For a decade and a half beginning in 1963, he created his first five hundred Old Masters' drawings, selling many of them in London through Sotheby's and Christie's along with the Colnaghi Gallery. His strategy was: never authenticate his own drawings—as an expert and dealer he acted in other situations. In 1978 his professional reputation was shaken, when a curator at the Washington National Gallery noticed that two drawings by two different authors were somehow drawn on exactly the same paper. The same year, Colnaghi gallery made a public statement that they had unknowingly sold a number of forged drawings.[168] Therefore, insiders got wind of what it was Hebborn. Further inner research raised more and more questions, and in 1984, with his back against the wall, Eric Hebborn finally confessed to his highly artistic fraud. However, even being reproached with forgery, he did not think to ask for forgiveness, and on the contrary, the gallery owner went on offensive, unleashing a torrent of denunciations of critics, gallery owners and auction houses.[169] These denunciations were published in his autobiography, *Drawn to Trouble*,[170] in

[165] Casement, *Too Many Faces*, 148. Cit. in ibid. from Eric Hebborn, *Drawn to Trouble*, 177.
[166] Casement, *Too Many Faces*, 149.
[167] As he tells in his autobiography *Drawn to Trouble*, 360. Cit. in ibid., 56.
[168] Casement, *Too Many Faces*, 56, 88.
[169] Harry Mount, "As 200 of His Art Works Go on Sale... How Many of This Master Forger's Fakes are Hanging in Our Galleries?", *Daily Mail* (October 20, 2014), https://www.dailymail.co.uk/news/article-2799515/as-200-art-works-sale-master-forger-s-fakes-hanging-galleries.html. *See also* Thomas Hoving, *False Impressions: The Hunt for Big-Time Art Fakes* (New York: Touchstone, 1997), 188–194.
[170] Eric Hebborn, *Drawn to Trouble: The Forging of An Artist: An Autobiography* (Random House, 1991).

which he made fun of experts who readily accepted any fake for genuine. The artist was sure that he was only responding to market demands. In 1996, Hebborn was found in a Roman street with a fractured skull, and three days later, he died. There are two preferred interpretations: he either felt drunk or was murdered in a mafia showdown.[171]

The highest level skill in falsifying the history of art was achieved by John Drewe (b.1948) and his companion painter John Myatt (b.1945). These couple of crooks managed to sow forged documents in the archives of the Tate Gallery and Victoria and Albert Museums in order to provide their fakes with pedigrees. Drewe posing as a physicist and wealthy art collector, donated money and some fake paintings to the museums; therefor he gained access to their archives.[172]

Drewe failed to deceive only one person—the mother of his children. One day she found archival documents among Drewe's belongings. When he decided to leave Goodsmith to marry someone else, she called the police. Soon after that, Drewe and Myatt were arrested, and the latter immediately began to confess.[173]

In 1999, John Drewe was sentenced to two years in prison and Myatt to a year, but was released two months later. During the years of criminal cooperation, John Drewe earned £1.8 million, of which £275,000 went to John Myatt.[174]

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[171] See versions in Casement, *Too Many Faces*, 56n249.

[172] See Laney Salisbury and Aly Sujo, *Provenance: How a Con Man and a Forger Rewrote the History of Modern Art* (Penguin, 2009).
For each work of art, Drewe, who was very talented at deceiving people, composed a compelling story that he could always confirm with archival data. The most difficult part was to find the most recent owners of previously nonexistent paintings, but Drewe met this challenge with ease. One of these false collectors was Peter Harris, a drinking companion of Drewe's, who signed while he was dying of cancer (Harris never owned a drawing, but this didn't hinder the scam). Harris was not the only one: for years, Drewe used the name of his childhood friend Daniel Stoakes for the same purposes. One day, John Drewe persuaded leaders of a Catholic monastery to confirm the authenticity of works performed by Myatt. The scheme created by Drewe worked for many years without fail, delivering masterpieces for Christie's and Sotheby's. Ibid., epub version.

[173] Ibid.

[174] Christine Cunningham, "Businessman John Drewe Jailed for Eight Years Following Fraud Trial at Norwich Crown Court," *Eastern Daily Press* (March 12, 2012), https://www.edp24.co.uk/news/businessman-john-drewe-jailed-for-eight-years-following-fraud-trial-504144.

It is not surprising that manufacturers of fakes continued to grow more and more numerous, considering what lenient sentences are often meted out to the culprits. Perhaps, pretty severe punishment was given to the German citizen of Dutch origin, Robert Driessen (b.1962) and his accomplices. Driessen was forced to flee to Thailand after creating more than a thousand fake sculptures in thirty years and earning about $10 million. That happened in 2005. Since 1998, he made the Swiss sculptor Alberto Giacometti (1901–1966) bronzes in images of his own design, claiming that the sculptor had secretly produced casts of his brother Diego's models. Alberto Giacometti, a member of the Paris avant-garde, is believed to have produced no more than 500 unique pieces, but his legacy is in chaos, with no one knowing where it is, and his name foundation, established by the widow of the artist, struggles with the task of bringing order. Driessen with two other partners took advantage of this state of affairs, and even issued a limited-edition book bearing Waldstein's name (one of this gang used the alias the Count of Waldstein), where they stated that Diego Giacometti, a brother and assistant of the artist, had established a secret cache of sculptures. In the end, firstly the two other partners were imprisoned, and in 2015 Driessen also was tried during his flight to Germany and sentenced to five years (his partners received prison sentences of nine years and seven years).[175]

Drissen's compatriot Wolfgang Beltracchi (b.1951) was less fortunate. While painting forgeries of Expressionists, Surrealists and Cubists, he earned about €30 million, but in 2011 he received six years in prison after mistakenly using the wrong pigment; meanwhile, the artist's wife, Helen, was given four years for complicity. As Drew and Myatt, the Beltracchis also had to imitate such

[175] "Crimes against Creativity," *Discovery Channel Magazine*. Retrieved from https://www.driessenart.com/downloads/Discovery_magazine_Crimes_Against_Creativity.pdf; https://www.spiegel.de/international/world/art-forger-robert-driessen-reveals-how-he-made-giacometti-fakes-a-893132.html; Thane Peterson. "The Mystery of the Giacometti Fakes: More Than 1000 Fake Sculptures By Alberto and Diego Giacometti Were Seized By Police Over the Last Three Years." *Art News* 109, no. 11 (2010): 98-102. Cited in Casement, *Too Many Faces*, 62.

an important for provenance penultimate step; Wolfgang staged a black-and-white photograph of Helen impersonating her grandmother in front of several paintings and with these photographs they illustrated their legend: they claimed that Helen inherited the paintings from her recently deceased industrialist grandfather.[176]

After all, the Beltracchi couple ended up in a so-called open prison. The couple spent their nights in a cell, then in the morning were released to work at a local studio. By 2015, both of them were released, and Wolfgang still actively presents his forgery as performance art. This lenience of justice in this case is hardly accidental. Firstly, Beltracchi (whose real name is Wolfgang Fischer) is not only an audacious forger, but also a highly talented copyist. He is considered to be one of the most gifted forgers of the recent decades. The level of his work allows him to eschew false proofs of provenance in most cases, since his works are sold on their own merits. Once a "phony Max Ernst [by Beltracchi] had hung for months in a retrospective at the Metropolitan Museum of Art in New York City."[177]

These stories illustrate that even high-profile galleries can easily tarnish their reputation. Beltracchi sold his counterfeit through the Knoedler gallery,[178] Hebborn, who was never sentenced[179] (and it is notable, since he was rather an inner agent on the market than a man in opposition—in comparison with Meegeren or outsider players like Drewe and Myatt), sold his drawings through

[176] Flavia Foradini, "Notorious Forger Wolfgang Beltracchi on Ethics, the Art Market and How to Make a Great Fake," *The Art Newspaper* (November 19, 2018), https://www.theartnewspaper.com/2018/11/19/notorious-forger-wolfgang-beltracchi-on-ethics-the-art-market-and-how-to-make-a-great-fake; Joshua Hammer, "The Greatest Fake-Art Scam in History?," *Vanity Fair* (October 10, 2012), https://www.vanityfair.com/culture/2012/10/wolfgang-beltracchi-helene-art-scam.
[177] Hammer, "The Greatest Fake-Art Scam."
[178] Richard Feigen, "Why the Fakes Scandals at Knoedler and Beltracchi Will Not Affect the Market," *The Art Newspaper*, October 1, 2013, https://www.theartnewspaper.com/2013/10/01/why-the-fakes-scandals-at-knoedler-and-beltracchi-will-not-affect-the-market.
[179] Casement, *Too Many Faces*, 56.

the Colnaghi gallery.[180] In 1978, Colnaghi was forced to make a public statement; Knoedler has been bogged down in lawsuits for fraud since 2011, since the Beltracchi scandal was not unique in their recent history.[181]

In some cases, conceiving a list for provenance was pretty easy. For example, in 1923, about a thousand previously unknown works attributed to Camille Corot were found in the collection of a deceased French doctor—a reputable anecdote, cited by many art historians and critics.[182] But if it is possible to find a thousand paintings, why then no one could find three or more thousands? This simple reasoning made Corot one of the most faked artists in the world. In 1940, *Newsweek* journalists joked that "of the 2,500 made by Corot during his life, 7,800 are in America."[183]

Salvador Dalí and Giorgio De Chirico might share the title the most forged with Camille Corot.[184] In New York City in 1991, a single seizure by court authorities from an American source accounted for fifty thousand faked prints of Dalí. Besides, Dalí is easily counterfeited: his signature came in a great number of variations. Dalí is known to encourage forgeries. In the mid-1970s, he found that art dealers were willing to pay him for signed blank sheets of paper, and—according to Captain Moore, his former private secretary—he signed 350,000 sheets, thus dramatically spoiling the market.[185] De Chirico, in its turn, is suspected in autoforgery; it is speculated that he imitated the style of his earlier period, and also denied the authenticity of some of his own indisputably authentic

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[180] Ibid.
[181] Laura Gilbert, "The Last Lawsuit in the Knoedler Fakes Scandal is Close to Being Settled," July 15, 2019, *The Art Newspaper,* https://www.theartnewspaper.com/2019/07/15/the-last-lawsuit-in-the-knoedler-fakes-scandal-is-close-to-being-settled.
[182] Hoving, *False Impressions*, 74-75; Casement, *Too Many Faces*, 1, 44.
[183] Cit. in Salisbury and Sujo, *Provenance*, epub version.
[184] Milton Esterow, The 10 Most Faked Artists, *The ArtNews*, June 1, 2015, https://www.artnews.com/art-news/news/the-10-most-faked-artists-119/.
[185] See Lee Catterall, *The Great Dalí Art Fraud and Other Deceptions* (United States: Barricade Books, 1992).

works of the early metaphysical period.[186] Thomas Hoving writes that Chirico as a result of creative block and dip in income imitated his earlier paintings "to supplement his dwindling income."[187] The De Chirico Foundation in the 1970s after a criminal forgery case, admitted that his *catalogue raisonné* inventoried fakes along with genuine works.[188]

The 6-volumes *catalogue raisonné* of Corot was issued in 1948, and since then several times was supplemented.[189] The catalogue of Dalí was released in 2004 by the Gala-Salvador Dalí Foundation.[190] The fact that the oeuvres of these artists are catalogued, doesn't prevent forgers from massaging facts and faking their works. As London-based art specialist Hugo Gorst-Williams says, they are favourite targets repeating after the experts from *The ArtNews*. Other targets are Russian and Soviet painters and "ancient" artefacts.[191] In spite of the completed full catalogue by Piero Manzoni, thousands of fakes were thrown off to the market.[192] So, the official cataloguing doesn't guarantee success in the resistance against counterfeits.

And these are just some sketches showing how common fakes are: dealers, realising or not, buy them and then, they are resold at auctions. Besides, there is no universal method that is suitable for everyone that would allow distinguishing

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[186] Martha Buskirk, *Is It Ours? Art, Copyright, and Public Interest* (United States: University of California Press, 2021), 206-209; Casement, *Too Many Faces*, 45.
[187] Hoving, *False Impressions*, 76.
[188] See, for example, Casement, *Too Many Faces*, 45.
[189] Alfred Robaut; Etienne Moreau-Nélaton; Jean Dieterle (first supplement), *L'Oeuvre de Corot: Catalogue raisonné et illustré, précédé de l'histoire de Corot et de ses oeuvres + Table and Premier supplément à "L'Oeuvre de Corot" par A. Robaut et Moreau-Nélaton* (first supplement). 6 Vols. Paris: H. Fleury (catalogue); arts et métiers graphiques (first supplement), 1905 (catalogue raisonné); 1948 (first supplement).
[190] *Catalogue Raisonné of Paintings by Salvador Dalí* [online], https://www.salvador-dali.org/en/artwork/catalogue-raisonne-paintings/obres/.
[191] Hugo Gorst-Williams, "Fake Art Is Endemic," *The Guardian*, January 29, 2008, https://www.theguardian.com/artanddesign/artblog/2008/jan/29/thecaseofthegreenhalgh Sergey Reviakin, "Russia." In Goodwin, ed. *The International Art Markets*, 268.
[192] Cristina Ruiz, Ada Masoero, "Piero Manzoni Foundation Criticised for Destruction of Works," *The Artnewspaper* (4 April 2018), https://www.theartnewspaper.com/2018/04/04/piero-manzoni-foundation-criticised-for-destruction-of-works.

fakes from the original. The stroke analysis, performed by a specialist, might be erroneous. Perhaps, widespread technical expertise could clear the market, but that's no one's business. In the second part of the work I return to these problems.

As I told in the previous part, Getty Provenance Index, that according to Fredericksen's word was aimed to "improve modes of travel now provided better access to foreign libraries, making it possible to assemble information on a much broader and more comprehensive scale" (see p. 29), as well as IFAR's services significantly simplified the work of criminologists and art researchers. Nevertheless, the advent of the Internet doubted the very principles of forgeries. Now objects could be sold from an invisible dealer to the buyer directly. William Casement told about an interesting case that happened to John Re. Re-sold in an eBay enterprise more than sixty Jackson Pollocks. His scheme, which included a legend that false works of Pollocks came from a trove he discovered and shills bidding during auctions, was exposed by FBI agents. And in 2015 Re was arrested in New York and later tried for fraud and tax evasion.[193] However, even despite the fact that Re faked non-figurative Pollocks and sold them over the Internet to naive collectors, it seems that it was the databases and the easy access to them allowed the FBI to conduct a quick investigation.

Essentially, the databases also can contain errors, or be somehow limited in information, but as such they help anti-forgery investigation. Though this information is usually never published due to its sensitive character. Another Achilles heel of such databases is that art objects barely could fit into charts and be computed and an incredible mass of detailed information they provide hardly could be analysed with a whim.

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[193] Casement, *Too Many Faces*, 65-66.
On the eBay art crimes see also Lizzie Crocker, "Why eBay Is an Art Forger's Paradise," *Daily Beast*, August 19, 2014; Amore, *The Art of the Con*, chapter 11; "How Forgers Sell Fake Art on eBay and Make Big Money," *ArtBusiness.com*, www.artbusiness.com/faketutorial.html; and the book a lawyer Kenneth Walton who successfully forged and sold via eBay Richard Diebenkorn, Kenneth Walton, Fake: Forgery, Lies & EBay (Simon Spotlight Entertainment, 2006).

The undisputed truth is that the modern art market simply cannot exist without forgeries. The former director of the Metropolitan Museum of Art, Thomas Hoving, once said "fully 40 percent were either phonies or so hypocritically restored or so misattributed that they were just the same as forgeries."[194] Today experts estimate at least from 10 to 40 percent of all paintings by famous artists to be made by unknown falsifiers.[195]

[194] Hoving, *False Impressions*, 17.
[195] Landesman, "A 20th-Century Master Scam."

## *The new type of auction catalogues in the eighteenth-century France*

Not only art crimes form the provenance; as I told at the beginning of the previous chapter, the first catalogues kindred to the inventory books of those of wealth and rooted in the Enlightenment-era desire to catalogue also influenced this phenomenon. Sophie Raux in her article "From Mariette to Joullain: Provenance and Value in Eighteenth-Century French Auction Catalogs," describes in detail this process.[196]

During the eighteenth century, France experienced a significant increase in collecting and an expansion of the art market—this is the time when as a result of the sale of many important [another word is desirable] European collections, a large number of diverse works of art enter the art market. And it is when, as we know thanks to the studies of William McAllister Johnson[197], the concept of provenance came into use—this idea originated and formed thanks to such names as Pierre Crozat (1665–1740), Edmé-François Gersaint (1694–1750), François-Charles Joullain (ca. 1734–1790) and Jean-Baptiste-Pierre Lebrun (1748–1813).[198]

The publication purportedly prepared for Pierre Crozat, the famous French financier and collector, by his friend and artistic adviser Pierre-Jean Mariette in 1729, the so-called *Recueil Crozat*, is told to lay the foundation for this process, initiating a new type of auction catalogue.[199] Right in the preface the new idea of this catalogue was set: there were words that the catalogue provides different tables alongside with their historical interpretation (fr. *description*). The

[196] Sophie Raux, "From Mariette to Joullain: Provenance and Value in Eighteenth-Century French Auction Catalogs," in *Provenance: An Alternative History*, ed. by Feigenbaum and Reist, 88-105.
[197] Raux, "From Mariette to Joullain," 89.
[198] Ibid., 86.
[199] Raux, "From Mariette to Joullain," 88.

programme of the catalogue was to highlight artists' biographies: "as the history of the fate known by the works of a great master during his lifetime and after his death being a natural continuation of his life, we are giving here the history of the fate known by the works of a great master during the history of the paintings and of the drawings that we have had engraved; we even say the name of those who owned them successively, going back as far as possible to the very first owner."[200] Crozat's catalogue was thus the first work to pay significant attention to the biographies of the artists. However, it is much more interesting that, in addition to the biographical aspect, the work had information about the chain of owners, or as that was formulated in the *Mercure de France* in May 1728: "we have added to these lives a brief description of the paintings and drawings <…> followed by the name of those who owned them successively, *to establish and certify their originality more authentically*"[201] (emphasis mine). Here for the first time we see the idea "that recounting the provenance of the work could serve as a means of asserting its originality."[202] As Raux writes, that idea "flourished during the second half of the century, alongside the development of theories and practices of connoisseurship and the spectacular booming of the art market."[203]

Francis Haskell noted that Recueil Crozat makes a great shift "from the interest in what is painted to an interest in who painted it and how it is painted."[204]

Between 1730s and the 1780s when the supply of paintings multiplied more than sixty times, making the question of the provenance of works of art crucial, the public needed reliable source of information guaranteeing the authenticity and the origin of the valued objects.[205] It was then a Parisian marchand-mercier Edmé-

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[200] *Recueil Crozat* (*Recueil d'estampes d'après les plus beaux tableaux et d'après les plus beaux desseins qui sont en France*, Paris: Imprimerie Royale,1729), cit. in ibid.
[201] Raux, 89n14.
[202] Ibid., 89.
[203] Ibid.
[204] Francis Haskell, The Painful Birth of the Art Book (London: Thames & Hudson, 1987), 42, cit. in ibid., 94.
[205] Cit. in Raux, 91-92.

François Gersaint (1694–1750) who [here a different accent, or a stylistic adjustment, needed, so that alongside with Mariette it does not look strained] for the first time made a radical statement connecting the prestige of a work with that of its provenance in one of his catalogues. In 1748, in the Angran de Fonspertuis catalogue, he wrote about the work by the Flemish painter David Teniers the Younger *Peasant Wedding* (1650, now in the collection of the State Hermitage Museum, Saint Petersburg): "In praise of this painting and to acknowledge its superiority, it is sufficient to say that among all the paintings belonging to the comtesse de Verrue, whose taste was so refined, this was the one that she considered the most beautiful and the most interesting to be found."[206] In the first third of the eighteenth century, the collection of the comtesse de Verrue had a reputation of one of the most remarkable Parisian collections of Dutch and Flemish art. The notion made by Gersaint among other factors brought the painting the highest price on an auction held ten years after the death of the contesse—many times more than the average price.[207]

The next evolutionary step, as Raux writes, was done by art dealer Pierre Rémy (1715/6–1797), who after Gersaint's death in 1750 became the leading expert in collections of prominent art patrons. Rémy in the 1755 Louis Pasquier sales catalogue for the first time mentioned the sources in the following manner: "they [two works by the same painter] come directly from the Cabinet of the Chevalier d'Orléans, Great Prieur of France, who had purchased them from the Vicomte de Fonsperuis's sale. See Gersaint's catalogue: p. 202, item 436."[208] Giving information in cross-references to the catalogues by his precursors—to the sales catalogues of Gersaint, Angran de Fonspertuis, and Prince de Carignan—

[206] Edmé-François Gersaint, *Catalogue raisonné …* (Paris: Barrois, 1747), 185-88, lot no. 424, cit. in ibid., 92n20.
[207] Ibid., 92.
[208] Pierre Rémy, *Catalogue des effets curieux du cabinet de feu M. De Selles* (Paris: Didot l'Aîné, 1761), cit. in ibid., 94.

Rémy sometimes even accented in the margins the references to the previous sales catalogues, as in his catalogue of 1961.[209]

The 1770s were marked by the deispearse of major collections, each of such sales was a significant event. The outbreak of a large number of first-class works to the market, in turn, led to the fact that the history of the paintings became more and more detailed. From the beginning of the 1780s onward, art lovers could find three cross-entries or more in sales catalogues.[210]

Later, in the 1780s another art dealer, François-Charles Joullain (ca. 1734–1790) published the first repertory on provenance, *Répertoire de tableaux, dessins et estampes, Ouvrage utile aux Amateurs*[211]—which from today's perspective looks like a logical/natural step of historical progression. The book retrieved up to six provenances for a painting—describing more than 350 the most interesting paintings in Paris. This ouvre, according to the author, served a dual purpose: to indicate the pedigree of the works of art and to provide the public with the quotation information ("with the information necessary to establish the quotation of both works and artists")[212].

There were two earlier attempts at presenting art provenance information in such a pattern. A Dutch index of Gerard's Hoet II ouvre, launched in 1752, provided prices for each painting fetched at auction, but it doesn't suffice provenance information. The second attempt was done by the French painter and art dealer Jean-Baptiste-Pierre Lebrun (1748–1813) in the catalogue of the Antoine Poullain sale (1780). There Lebrun for the first time mentions the very last provenance and last purchase prices of works put at auction. However, the information was placed in the appendix and besides, Lebrun put the latest price of a work fetched as a reference, not a range of prices for each work.[213]

[209] Ibid., 94.
[210] Ibid.
[211] Ibid.
[212] Ibid., 96.
[213] Ibid., 96-97.

A couple of years following the publication of Joullain's *Répertoire*, Abbot Jean-Louis Aubert criticised Lebrun's work for presenting a "tariff" for everyone's knowledge. Lebrun defended in a very pragmatic manner saying that the price of a work of art depends not only on the intrinsic value, but on the competition between buyers and "on the distinction of the object". As Raux notes, his work represented a move toward more transparency in the art market—no matter the author's true intention.[214]

Thus we see how in the then-centre of Europe, France during the eighteenth century, provenance developed as an institution marking a new era in art history. In spite of such precentents as "the striking effect of prestigious provenances on the price of paintings, starting with Gersaint's sales in 1740s," that barely induced the regular tradition.[215] Connoisseurship superimposed on a new historical paradigm of detailed and encyclopaedic treatment of history gave birth to this new attitude towards provenance. What may confuse researchers is that the artist's signature, despite the very fact of existence and even imitation by engravers, was not mentioned at all in the material descriptions of paintings in the catalogues of the eighteenth century. Provenance of the eighteenth century is "an explication of the filiation of several more-or-less famous owners,"[216] used to guarantee a work's pedigree, that is, the work was selected by some prominent art patrons. And logically, the very process of selection by art connoisseurs guaranteed the originality of the work. Thus, Remy wrote in the preface of the Prince de Conti's catalogue: "The originality of these paintings is beyond doubt. We know their filiation; we were able to mention, as far as we could, the different cabinets in which they had been kept."[217] However, such a position was not universally accepted and was contested by protagonists of "the analysis of the maniere as the

[214] Ibid., 98.
[215] By now there is no statistical research on this topic. Ibid., 99.
[216] Ibid., 100.
[217] Pierre Rémy, *Catalogue d'une riche collection de Tableaux... de Mgr le Prince de Conti* (Paris: Muzier, 1777), v, cit. in ibid.

specific expertise of the ‘true connoisseur’,”—even though it has not gained historical weight.[218]

[218] Ibid., 99-100.

## *The French Revolution, nationalisation, musealization and new historiographic ethics*

Another landmark period for our understanding of how the concept of provenance developed, is the time of the French Revolution—a moment when social distance with the past, when the structures underlying the assumptions of value are restricted.[219] The French art historian Dominique Poulot in *Provenance: An Alternative History of Art* describes how during this period, new ways of perceiving art emerge. The burning transformation of society which as a rule presupposed the dialogue process among the best minds in the revolutionary France resulted in "a remarkable series of debates"—the hot topics were as much political as cultural and concerned the custodian politics in ways in which the provenance of a work of art should be treated, "as well as the consequences that this entailed, particularly with the *new* museums" (italics mine).[220] The concept of this museum presupposed the public accessibility to all available artefacts no matter who owned them.

The French, like many Europeans at that time, were concerned about the issues of self-determination as a nation—this is the time of the emergence of all kinds of genealogies,[221] which inevitably came down to the questions of provenance. However, according to some contemporaries, already in the pre-revolutionary 1760s-1770s, the separation of history from politics was noted. The ambiguity of that historical period was expressed, among other things, in the fact that along with the construction of genealogies, there is also the conviction that the legitimacy should be sought through the quest for principles and not be based on factual precedent. "The Revolution," Poulot writes, "declared itself to be

[219] Dominique Poulot, "Provenance and Value: The Reception of Ancien Régime Works of Art under the French Revolution," in *Provenance: An Alternative History*, 65.
[220] Both quotations from Poulot, "Provenance and Value," 61.
[221] Ibid, 63.

without provenance," though it inherits the civilization with its progress of morals and intellects.[222]

The new historical background sets the new standards toward provenance even though many dubious collisions. The vivide debate series concerned the way the new reality should be perceived, and how to explain the fundamental difference that was highly seen between the art of Ancien Régime and the new revolutionary art ways in some cases—the difference—and here lies another paradox of this situation—was barely celebrated. The general explanation why presenting provenance became so important during the revolutionary years is rooted in the peculiar relationship between the Revolution and temporality: the ambition to begin time anew and even more bluntly, to cut the present times off entirely from the past.[223]

Among the opinions that were voiced were such as Robespierre's contemptuous attitude towards artists who forgot about morality.[224] Another position is one of Thibaudeau who spoke of "centuries of base adulation" and that "the arts have long been retarded relative to the Revolution."[225] However, the position of those who appointed to the fact that works should be protected by virtue of "a patriotic cult of talent" gained the most weight. In this case, it was suggested "to ensure the continuity of 'professional' memory and the indispensability of the service rendered by artistic models." The questions that this approach posed to the professional community, as already mentioned, were too contradictory, and in each particular case the path to solving these problems were different; in the case of some works, the value is assigned to them, while in others it is reestimated from the point of view of structure, namely, the eternal

[222] Ibid., 63.
[223] Ibid., 61-66. As Poulot formulates, "Works inherited from the past were thus required to bear witness in the present to the abilities naturally exhibited by humanity. This double imperative paved the way <…> the arts should occupy between history and morality, memory and nature, model and bogeyman." Ibid., 63.
[224] Ibid., 73.
[225] Cit. in ibid., 74.

values in comparison to time-specific values dictated to it by the context. Oftenly, works were removed from the place for which they had been created to the modern museum. So, a medallion of Louis XIV in the Troyes was conserved. In these new conditions, museum staff developed new rules to protect nationalised and plundered works against vandalism.[226] This paradigm gave direction to the museum politics, however, both of them assumed outcrops of "manifestations of error and specimens whose function was deterrent"—though to a varying degree.[227]

The new rules derived from the old evaluation scale. If thinking about the provenance under the Ancien Régime was based on knowledge and confidence in the authenticity of the marks of craft production (such as *monogram*, *mark*, and *inscription*—the word *signature* gets into wide circulation only in the nineteenth century)[228]; assessment of an expert and belongings to an illustrious collection—a phenomenon owing its existence to a booming market and the first provenance inventory (see Raux above). At the same time by the end of the nineteenth century, in European galleries a notion of national school and along with that a practice of hanging by provenance appeared.[229]

In a moulding society of mixing stratas and class struggle, an ill-informed public based on the label could erroneously "mistake an ancient bust for a representation of a noble who possessed it"—as Poulot writes, such cases raised whether this means the fail of the Revolution.[230] Thus, some museums—the Fête des Arts, the Louvre, etc.—deliberately emphasised the provenance for instance, accentuating the victories of French troops on foreign soil. The counterrevolutionaries, which professed the principles that objects should remain in their original places, took advantage of a similar sensitivity regarding labels

[226] Ibid., 73-75.
[227] Ibid., 75.
[228] Ibid., 64.
[229] Ibid.
[230] Ibid.

and the history of objects—in particular by contesting Italian trophies. The revolution ethics, in its turn, preferred to appreciate artworks for their aesthetic and moral power, out of special connection with their provenance, even though curators of the new museum accentuated it—the very removal to a museum enhanced the gratitude to the artist.[231]

The philosophical impetus behind such a new point of view layd in French eighteenth-century utopian paradigms, "which were governed entirely by reason and morality and intent on annihilating all harmful institutions."[232] Placed in nationalised museums works usually "got rid" of their provenance and were read in terms of truth of art/began imparting new meanings of truth of art, which alongside with the notion of an original artistic performance begins to define their value—rather than the commissioning story, or the chain of illustrious possession.[233] The evocation of this provenance served to condemn a form of false recognition; glory bestowed by the ancien régime could, in the new perspective, be negligent and confused at best and might be simply ignominious. This fallacious glory could now be contrasted with true (revolutionary) glory, of which the museum was one of the privileged sites.

The new historical ethics prompted to move the monuments to the museum, and the monuments placed, in turn, in the new surroundings of the museum clarify the understanding of the history of that period; "the citation in the museum's catalogue of the sometimes incongruous vicissitudes that works of art underwent subsequent to the sale of church property and the crisis of vandalism also constituted a celebration of the salvage of certain monuments by the curator."[234] Museums turned the public's attention entirely towards pedagogical experience, and curators tried to achieve educational efficiency.[235]

[231] Ibid., 65.
[232] Ibid., 65–66.
[233] Ibid., 66-72.
[234] Ibid., 72.
[235] Ibid., 70.

Museums, through provenance hoped that adding historical sources to each artwork would add the historical truth and thus, "making every visitor a citizen-legislator." The impetus behind that was the revolutionary tenet that such philological accuracy introduced by the progress in humanitarian thought could teach museums' visitors the philosophical history of the political conditions behind the artworks. Throughout the revolutionary decade, different views of nature circulated, origins could be denied or forgotten— in some cases, it could even serve as proof of historical criminality. Thinking about origins under these conditions resulted in constructing a specific form of knowledge; separating works from their context and the whole process of muselization led to confirmation bias, when "pass[ing] over in silence the specific vicissitudes the work had undergone in favor of an origin <...> might be called deceptive, general and abstract, [and] the production of art by the eternal genius of mankind."[236]

[236] Ibid., 78.

## *The two milestones in the redistribution of art objects across the Europe*

What else greatly influences provenance is art looting. The history of Europa knows two such shifts, though the looting and confiscation of works of art as a result of military actions has an unfortunately long history. The are the era of Napoleon and the period of Nazi looting. Starting with the Napoleon era, we see the roots of our perception of restitution, cultural heritage and related issues.

### *The art requisitions under Napoleon*

The Napoleonic wars caused the drastic change in scale, organisation and legitimization of art seizures. This prompted, on one hand, the emergence of the concept of "national art" and, on the other, it was after these devastating wars when the restitution policies started to be developed.[237] Besides, and that is no less important, in contrast to earlier episodes of appropriation of art objects, the looting of the late eighteenth and early nineteenth centuries was not only well documented, but also shows a great degree of planning and clear intention for further use of the works.[238]

From 1794 to 1815, cultural treasures from European territories pillaged by French troops were brought to Paris, mainly to supplement the collection of the Central Museum of Arts (Musée central des arts de la République), established at the Louvre in 1793 and renamed the Gallery of the Napoleon Museum (Galerie

[237] Bianca Gaudenzi and Astrid Swenson, "Looted Art and Restitution in the Twentieth Century—Towards a Global Perspective," *Journal of Contemporary History* 52, no. 3 (2017): 502.
[238]Natalia Gustavson, "Retracing the Restoration History of Viennese Paintings in the Musée Napoléon (1809–1815)," CeROArt (no. HS, 2012), http://journals.openedition.org/ceroart/2325.

du Musée Napoléon) in 1804.[239] Confronted with the military threat and warned by the previous looting of works of art by Napoleon's Commissars, many European art patrons took care to evacuate their important possessions from the danger zone before the arrival of the French army. When Napoleon entered Vienna in May 1809, the key exhibits of the Austrian Imperial Art Gallery, then installed in Vienna's Belvedere Palace, were carefully removed and sent abroad for safe storage.[240]

In 1809, Heinrich Füger (1751–1818), director of the Imperial Art Gallery, stated that most of the most valuable exhibits had been saved, and the remaining items should be considered less important. Füger managed to keep 625 paintings in 54 boxes, which corresponded to about fifty percent of the exhibited works.[241]

Despite these evacuation measures, Dominique Vivant, Baron Denon (1747–1825), director of the Napoleon Museum, was able to capture approximately 400 paintings from the Vienna Art Gallery in the summer of 1809—including four boxes of 56 paintings that Füger could not evacuate in time from the Belvedere Palace. The works of art selected by Baron Denon were also packed in wooden boxes—without frames, smaller paintings stacked on top of each other, larger canvases rolled up—and sent to Paris. Sixty-three boxes of seized Viennese works of art arrived in Paris at the end of October, after three and a half months of travelling in a carriage through Europe.[242]

While some of the works confiscated in Vienna were to be included in the Paris collection, about fifty paintings were later sent to cities in French territory or exhibited in several churches in the capital. After the final defeat of Napoleon began the tedious process of returning objects to their former places. Most of the Viennese works of art were restored in September 1815. However, about forty

[239] Ibid.
[240] Ibid.
[241] Ibid.
[242] Ibid.

works that had been sent to some French provincial museums and Parisian churches were not returned.[243]

The forced cultural transfer in Europe throughout the nineteenth century led to a new understanding of responsibility for cultural heritage. The fusion of masterpieces in Paris caused not only a significant rise in the history of art and fine art, but also a great breakthrough in the discipline of restoration, as a great number of works of art were damaged due to transportation and Parisian experts had to invent new methods of restoration.[244]

*Napoleon in Italy, 1800–1815 Italian Empire of Napoleon*

Napoleon brought the ideals and images of the French Revolution to Italy. In March 1796, as commander of the offensive army against the Austrian Empire in Lombardy, he entered Italian territory to secure a free passage through Piedmont from the Savoyard monarch. A chain of revolts in the neighbouring regions of Reggio Emilia and the papal legations of Ferrara and Bologna pushed Napoleon to further territorial consolidation. By the end of the year, the Cisalpine Republic was formed, and Pope Pius VI was released from the armistice in Bologna. The subsequent Treaty of Tolentino, signed in 1797, demanded disarmament, concessions, and a move south into the Bourbon domain. A Republic in Rome was proclaimed at the beginning of 1798, and the Pope was finally sent to France, where he died the following year. Napoleon was proclaimed the liberator of Italy, stimulating hitherto disjointed or incomplete reform movements in a bold political manoeuvre. The French Revolution and this quick invasion aroused an enthusiastic spirit of transformation.[245]

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[243] Ibid.
[244] Ibid.
[245] Desmond Gregory, *Napoleon's Italy* (Madison: Fairleigh Dickinson University Press, 2001), 30-33, 88, 100.

The power of the revolution politicised art in a way hitherto unseen in the eighteenth century. Republican ideals were projected onto the forms of established Classicism. Napoleon himself was not very concerned about art, but he clearly understood its pedagogical value. He promoted art institutions and established state patronage procedures that would spread images throughout the country. The new movement of Neoclassicism, as Napoleon imagined it, implied at once the rational basis of the military engineer and the effective imagery of the propagandist.[246] The synthesis of classical art and revolutionary politics was best manifested in staged political festivals frequently held during the rule of Napoleon.[247]

During the tumultuous years of the French wars on the continent, which began in 1794, and the French occupation of a large part of the Italian Peninsula by Napoleon in the period of 1798–1814, countless works of art and culture were removed from the captured cities to decorate the Parisian museums. Among the spoils of war were numerous Raphael's panels and paintings. Raphael's masterpieces became the most desirable works of art for the French, but weren't their only goal because collectors also made much of other Italian artists, such as Titian, Correggio, the Caracci, Veronese, and Domenichino.[248]

As it was already said, under Napoleon, the issues of compensation and restitution of confiscated cultural property also became relevant. He set a tradition of adding lists of art objects to the acts of indemnity, and besides that, stipulated his right to own the looted art in the final peace treaties. The operation to "withdraw" the plundered art in such a huge amount was even provided with an ideological basis: the French, led by the genius of all times Napoleon, will gather

[246] Martin Rosenberg, "Raphael's Transfiguration and Napoleon's Cultural Politics," Eighteenth-Century Studies 19, no. 2 (1985): 180–205.
[247] See the literature cit. in Philip Dwyer, "'Citizen Emperor': Political Ritual, Popular Sovereignty and the Coronation of Napoleon I," *History* vol. 100, no. 1 (339) (2015): 40–41.
[248] Cathleen Hoeniger, "The Art Requisitions by the French under Napoléon and the Detachment of Frescoes in Rome, with an Emphasis on Raphael," *CeROArt* (no. HS, 2012), https://journals.openedition.org/ceroart/2367.

in the Louvre supermuseum for the benefit of all mankind.[249] The paintings and sculptures by great artists, scattered before in monasteries and palaces, where they were seen by only churchmen and aristocrats, became available to anyone who comes to Paris.[250]

After Napoleon's first abdication in 1814, the victorious allied monarchs, led by Alexander I, did not venture to touch the Louvre, which was full of confiscated works. The "distribution" of the supermuseum began only after the defeat of the French at Waterloo. This was the first restitution in the world.[251] Until 1815, captured by the enemy masterpieces could either be redeemed or retaken. Now it became possible to return them "according to the law" (quotation mine).[252] To do this, the victors had, however, to cancel all the peace treaties signed by Napoleon. The Congress of Vienna (1814–1815) obliged France to return the art treasures to their rightful owners. In total, more than 5,000 unique works were returned, including the Ghent Altarpiece and the statue of Apollo Belvedere. So, the popular assertion that the modern Louvre is full of treasures looted by Napoleon is a fallacy. The museum owns only those paintings and sculptures that the owners themselves did not want to take back, believing that the transportation costs wouldn't correspond to their price. For example, the Duke of Tuscany left the Cimabue's *Maesta* (ca. 1280) and some other Proto-Renaissance works, the value of which was not understood by that time. The only person who could comprehend their value was the director of the Louvre Baron Denon. Much like the French confiscation, restitution also took on a political dimension. The Austrians used the return of plundered art to Venice and

[249] David Gilks, "Attitudes to the Displacement of Cultural Property in the Wars of the French Revolution and Napoleon," *The Historical Journal* 56, no. 1 (2013): 113–143. *See also* Dominique Poulot, "Provenance and Value," 61–85.
[250] Jonah Siegel, "Owning Art after Napoléon: Destiny or Destination at the Birth of the Museum", *PMLA*, vol. 125, no. 1 (January 2010), 142–151.
[251] "Restitution—the action of restoring or giving back something to its proper owner, or of making reparation to a person for loss or injury previously inflicted." Restitution, n., *Oxford English Dictionary* (3rd edition, Oxford September 2016, http://www.oed.com/view/Entry/).
[252] Gilks, "Attitudes to the Displacement of Cultural Property," 138–140.

Lombardy as a demonstration of their concern for the rights of these Italian territories annexed to the Austrian Empire. Prussia, under the pressure of which France returned paintings and sculptures to the German principalities, strengthened the position of the state, able to defend the General German interests. In many German cities, the return of the treasures was accompanied by an explosion of patriotism: young people harnessed horses and literally carried carts with works of art.[253]

[253] Ibid.

### *Art movements during and after World War II*

As mentioned earlier, the next important shift in understanding and perception of the concept of provenance occurred in the middle of the twentieth century. If the French looting of Napoleon wars first introduced the narrative of "national art," "national heritage," and "national museum" with the revolutionary translocation of artworks across Europe, "creating an international case for objects across the globe to fill the new treasure houses, which was legitimised by the ideas that this 'plunder' constituted an act of 'preservation',"[254] then the Nazi looting strongly challenged the established order and international legislation on pillaging and the wilful destruction of cultural property, which took shape thanks to the first restitution that began after the defeat at Waterloo and very similar course of events followed the World War I and especially the Treaty of Versailles with its reparation clauses.[255] The issue of Holocaust-era looting with the brutality of the Germans and enormous ambitions of both Goering and Hitler remained untouched for decades. Only with the end of the Cold War the efforts to raise issues of restitution took effect.[256] During the Nazi decade, Germans seized an estimated one fifth of all art in Europe or more than 5 million objects.[257] Speaking of provenance of works of art, it would be more correct to divide the issue Nazi looting and the consequences of the World War II.

During the turmoil decades in the mid-twentieth century, the Americans and Soviets substantially replenished their collections—the first when the country accumulated the Jewish art before and after the war; and the second in the post-war years when they added to their collections instead of the lost works of art the

[254] Bianca Gaudenzi and Astrid Swenson, "Looted Art and Restitution in the Twentieth Century—Towards a Global Perspective," *Journal of Contemporary History* 52, no. 3 (2017): 503.
[255] Gaudenzi and Swenson, "Looted Art and Restitution in the Twentieth Century," 503–504.
[256] Ibid., 507.
[257] Robert M. Edsel, and Bret Witter. *The Monuments Men: Allied Heroes, Nazi Thieves, and the Greatest Treasure Hunt in History* (New York, N.Y: Center Street, 2009), xiv.

"trophy" art. The French lost some of its masterpieces, and the losing Germans in the decades of the divided Germany faced the questions of historical memory. The very idea of cultural property as "a matter of international concern, part of 'the heritage of mankind'" was born in the reaction of participant countries towards the looting during the war years.[258]

Bellow I will briefly touch the most striking points of the history of Nazi looting, as well as cover the aftermath of the World War II in the Germany, Russia, France and the USA—because only an understanding of the various currents within the framework of these events allows us to understand what the concept of artistic provenance is today and what difficulties contemporary researchers of provenance face. It also allows us to see how different approaches to provenance can be depending on national contexts.

*The Nazi looting*

The most systematic and profound approach to the issue of Nazi looting provides the book by Lynn H. Nicholas, *The Rape of Europa: The Fate of Europe's Treasures in the Third Reich and the Second World War* (1994).[259] In this work, based on letters, eyewitness accounts, and other archival documents, Nicholas tells the story of Nazi art looting starting with the pre-war purges, in detail covers the war turmoil and the years after the war, and finally, overviews the subsequent decades of the restitution. The book contains a huge number of names of people involved in these mechanisms—both in Germany, Italy, Austria, and in the countries of the anti-Hitler coalition. Nothing to say about her careful research of interaction between different levels of the Nazi hierarchy—from Hitler, the

[258] Jeanette Greenfield, "The Return of Cultural Property," *Antiquity*, no. 60 (1989): 29, cit. in Gaudenzi and Swenson, "Looted Art and Restitution in the Twentieth Century," 505.
[259] Nicholas, *The Rape of Europa*.

would-be artist, to the party leaders of provincial German cities. They opened exhibitions, visited artists' workshops, established art schools, and eagerly collected.[260] Another important source on the Nazi plunder, which I cite in this chapter, is published in 2001 by the American Alliance of Museums: *The AAM Guide to Provenance Research*,[261] which I mentioned in the first part.

Since the beginning of their rule, the Nazis sought to use art as propaganda. As Nicholas writes, "from the day Hitler came to power, art was a matter of highest priority to the Reich. He and other Nazis (especially Hermann Goering) were ravenous collectors," who stopped at nothing to acquire paintings, sculpture, coins, jewels, books—literally everything.[262] The main message that stood behind Hitler's artistic program was to instill in Germany a rich culture reminiscent of the Roman Empire, some kind of concomitant of Renaissance's rebirth of Classical Antiquity. Thus, mediaeval and Renaissance works had an extremely fundamental role in Hitler's collection, besides works that represented Aryan culture.[263] His main motivation was to impose a certain understanding of history and culture on the German people and even on the whole Western society.[264]

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[260] Nicholas is far from alone in a wide range of authors who inquired the Hitler's views on art and the art policy of Nazi regime. A number of other publications address various aspects of the problem of Nazi looting. For instance, the American professor Jonathan Petropoulos, deals with the role of art in Nazi politics and the priorities of key Nazi leaders who devoted a disproportionate amount of time and energy to fine art, given the fact that they were at war. In his book *Art as Politics in the Third Reich* (1999), Petropoulos examines the rivalry between Nazi leaders and the governing bodies of Nazi art politics. In *The Faustian Bargain* (2000), he details the careers of several prominent Nazis associated with the arts. Jonathan Petropoulos, *Art as Politics in the Third Reich* (UNC Press Books, 1999) and Jonathan Petropoulos, *The Faustian Bargain: The Art World in Nazi Germany* (Oxford University Press on Demand, 2000).

[261] Yeide et al., *The AAM Guide to Provenance Research*.

[262] Nicholas, *The Rape of Europa*, cover.

[263] Helen Roche, "Mussolini's 'Third Rome', Hitler's Third Reich and the Allure of Antiquity: Classicizing Chronopolitics as a Remedy for Unstable National Identity?," *Fascism* (Journal of Comparative Fascist Studies, Brill), vol. 8, no. 2, 139–144.

[264] Hitler instructed his architects to create monuments that would become elegant ruins over the centuries and where Berlin was to serve as the German version of Rome, Linz, his birthplace, was to become a culturally rich city modelled on Florence. Kurtz, *America and the Return of Nazi Contraband,* 20.

To implement their program, Nazis first took control over the art life. Museum directors, administrators or curators who did not conform to Nazi ideology were forced to leave the profession. Founded in 1933 the Chamber of Culture required membership of artists, dealers, as well as writers and musicians who wished to continue working.[265]

After they expelled unwanted personnel from the arts, they began pressure on museums to remove so-called "degenerate art" from German public collections: that is, contemporary French and German masters, such as Marc Chagall, Paul Klee, Vasily Kandinsky, Ludwig Kirchner and Ernst Barlach. The apogee was in 1937, when hundreds of objects were selected and displayed in the infamous "Degenerate Art" exhibition.[266] This exhibition broke all imaginable and unimaginable attendance records: more than two million people saw the exhibition in just over three months—a record still unbroken by any exhibition of contemporary art to date.[267]

After the closing, it was decided to dispose of all the works, both those that were presented in Munich and all those still stored in private collections and other museums—and to sell them on the international art market. At these auctions were sold, for example, *Self-Portrait* by Van Gogh, *Blue House* by Marc Chagall, and *Soler Family* by Picasso.[268] The works, which did not interest the auction participants, were taken to depositories, and a considerable portion of the paintings were burned—such was normal Nazi practice.[269] Besides, in 1938, the government of Nazi Germany issued a law that retroactively legalized

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[265] Yeide et al., *AAM*, 42. See also Alan E. Steinweis, *Art, Ideology, & Economics in Nazi Germany: The Reich Chambers of Music, Theater, and the Visual Arts* (Chapel Hill, NC: University of North Carolina Press, 1996).
[266] Yeide et al., *AAM*, 42. See also Stephanie Barron, *'Degenerate Art:' The Fate of the Avant-Garde in Nazi Germany* (New York: Harry N. Abrams, 1991), 19–23.
[267] Benedetta Ricci, "The Shows That Made Contemporary Art History: Nazi Censorship And The 'Degenerate Art' Exhibition of 1937," *Artland Magazine* https://magazine.artland.com/the-shows-that-made-contemporary-art-history-the-degenerate-art-exhibition/.
[268] Barron, *'Degenerate Art'*, 131, 135, 143.
[269] Ibid., 121, 128.

confiscations of so-called “degenerate art” from galleries and private collections, showing that the Nazis cast doubt on the artistic worth of these works.[270]

Purges in German museums continued in spite of the heroic efforts of their curators to protect the treasures.[271] In the late 1930s, “those responsible for Europe’s museums were very aware of the imminence of war and could not ignore the happenings in the nations annexed by the Reich,”[272] and took some measures to prevent the theft or destruction of their art. So, during the Munich crisis in 1938, the London Tate took down the major paintings and replaced them by similar but lesser ones, the National Gallery was closed, and the Louvre pictures were sealed in cases, with the *Mona Lisa* rushed to Chambord. Later, during the war, the Louvre staff decided to transfer the *Mona Lisa* to Louvigny, near Le Mans.[273]

Sometimes museum staff even managed to preserve works that were close to the front line. So, people were able to save Leonardo da Vinci's *Last Supper* while the rest of the Church of Santa Maria delle Grazie crumbled during the bombing. Nevertheless, in the course of the war, the world lost several masterpieces. For example, the frescoes of Camposanto, the long-standing glory of the city of Pisa, have mostly disappeared. No one tried to protect the building and the frescoes, thinking that the Germans would not bomb them because they were too materially and culturally valuable. As a result, the frescoes were badly damaged by the bombing and are only shadows of their original splendor.[274]

The Nazis created a number of bureaucratic institutions tasked with "collecting" works of art in various ways. Sometimes they bought items and sometimes they were robbed.[275] Often, Jews vended their collections in “forced

[270] Ibid., 19.
[271] Yeide et al., *AAM*, 42.
[272] Nicholas, *The Rape of Europa*, 49.
[273] Ibid, 49–52, 87.
[274] Robert M. Edsel, *Saving Italy: The Race to Rescue a Nation's Treasures from the Nazis* (New York: W. W. Norton & Company, 2014).
[275] Yeide et al., *AAM*, 42.

sales" to collect enough money to pay levies, which allowed them to flee Germany.[276] As Marc Masurovsky writes, "there were many different ways by which Jews would lose ownership of their property during the Nazi years," since anti-Jewish laws and decrees were meant to marginalise Jewish life; Jews were expelled from civil society and severely restricted in the economic access, not just in political and cultural life. "The combination of these restrictions had the effect of forcing Jews to divest themselves of their property, including works and objects of art, precious metals, textiles, furniture and other decorative objects."[277] The result of "forced sales" is very difficult to account, and the provenance of works that were sold in the context of Aryanization rose many hurdles even today.[278]

The Nazi aspiration to bureaucracy, however, has the other extreme, sometimes their records are useful even today for tracking provenance, as writes Yeide, Akinsha and Walsh in their *AAM*.[279]

Interestingly, many agencies controlled by the Nazis, serving the personal purposes of their functionaries, were in direct competition with each other.[280] For example, the most sophisticated art looting operations undertaken by the Nazis—that is, by the Einsatzstab Reichsleiter Rosenberg, an agency that carried out the confiscation of so-called "orphaned" Jewish property in the occupied countries, greatly supplied the personal collection of Goering.[281] The collections confiscated

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[276] Marc Masurovsky, "The Current State of Nazi-Era Provenance Research, and Access to Nazi-Era Research Resources and Archives," in *Provenance Research Today*, 143, etc. Provenance Research Today: Principles, Practice, Problems. Ed. by Arthur Tompkins and Lund Humphries (Lund Humphries, 2020).
[277] Masurovsky, *Provenance Research Today*, 142.
[278] Ibid., 143.
[279] Yeide et al., *AAM*, 42.
[280] Ibid.
[281] The main mission of Einsatzstab Reichsleiter Rosenberg was to "study" Jewish life and culture. Alfred Rosenberg proposed to collect archives, books, and other related materials that later were examined by his cohort of antisemitic scholars. The codes ERR assigned to collected objects reflected the collection owner's name or other assigned designation for the collection. "The Einsatzstab Reichsleiter Rosenberg (ERR)," Cultural Plunder by the Einsatzstab Reichsleiter Rosenberg: Database of Art Objects at the Jeu de Paume, https://www.errproject.org/jeudepaume/about/err.php

in France in 1940 were taken to the German Embassy in Paris, which soon became overflowing with loot. From 1940 to 1944, the Jeu de Paume Museum in the Tuileries Gardens combined a new repository and hub for sharing information about art looted by the Nazis. There, teams of art historians and clerks hastily catalogued the incoming collections that were to be at Hitler's disposal for his first selection. Goering is documented as having made twenty visits to Jeu de Paume. Each visit was preceded by a special exhibition organised in his honour, from which he selected items for his own collection or to exchange for paintings that he wanted to purchase.[282] Goering's art collection was second only to Hitler's. By the end of World War II, Goering possessed one of the largest and most important art collections in Europe, numbering paintings and sculptors, in addition to a room full of art and antiquities at Carinhall, his country estate, where he dreamed of establishing his own museum.[283]

Since the taste of the Nazi elites tended to the old art, or, in other words, was retrospective, researchers of provenance should pay attention not only to how the Nazis collected cultural values or what were the ways of art movements during this period, but also to the artistic and historical model of Nazis collection. Most Nazi leaders collected works of art followed the standards of late nineteenth century German collecting. Their main priority were: mediaeval German art and the Renaissance. The Nazi collectors valued Flemish and Dutch art; even works by minor Dutch artists of the seventeenth century were sold at extremely high prices. They favoured the eighteenth century French art as well and among the nineteenth century preferred the German realist and academic artists.[284] Besides, in some cases, Nazi collectors acquired paintings with blatant attribution

[282] "The Jeu de Paume and the Looting of France," Project for the Documentation of Wartime Cultural Losses at Loyola University Maryland, http://docproj.loyola.edu/jdp/index.html.
[283] Jonathan Petropoulos, “Not a Case of "Art for Art's Sake: The Collecting Practices of the Nazi Elite”, *German Politics & Society*, no. 32, Cultural Transformation and Cultural Politics in Weimar Germany (Summer 1994), 107–124.
[284] Yeide et al., *AAM*, 43-44.

distortions or outright forgeries, such as the highly prized "Vermeers" produced by Han van Meegeren, so great was their desire to create their collections.[285]

Evidence of Nazi collecting activity shows that virtually any art form created before World War II could be confiscated in Europe: either for the private collections of Nazi functioneers, for some propogande purposes, or to raise some money by putting up for sale. Later, Nazi looting was replaced by other diverse movements of art: the Allies saved or, in turn, plundered again (the case of Soviet "trophy" art), some things were returned to their place by restitution, others were stuck in the hands of the new owners, in some cases the looted artworks were theft and then sold on the black market.[286] The process of restitution of the Nazi loot cannot be called complete to this day, and to stay on the safe side—without analysis of political aspects of the restitution—it can be said that many works of art have changed their places, or their provenance. In the 1990s art restitution efforts received wide publicity, since more art records were declassified and with the advent of internet tools for finding lost art evolved.[287]

The post-World War II restitution process launched by the Allies in 1943 resulted in adopting of the Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict (1907) in 1954[288], which later was complemented by the UNESCO 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural

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[285] Edward Dolnick, *The Forger's Spell: A True Story of Vermeer, Nazis, and the Greatest Art Hoax of the Twentieth Century* (New York: Harper Perennial, 2009).

[286] Susan Ronald describes one such case of a popped up on the black market in Switzerland work from the collection of the Nazi dealer Hildebrand Gurlitt. Susan Ronald, *Hitler's Art Thief: Hildebrand Gurlitt, the Nazis, and the Looting of Europe's Treasures* (New York: St. Martin's Press, 2015), 249.

[287] Michael J. Kurtz. *America and the Return of Nazi Contraband: the Recovery of Europe's Cultural Treasures*. (Cambridge: Cambridge University Press, 2006), 215. Sidney Zabludoff. "At Issue: Restitution of Holocaust-Era Assets: Promises and Reality." *Jewish Political Studies Review* (2007), 3.

[288] Convection for the protection of cultural property in the event of armed conflict with regulations for the execution of the convention, *UNESCO* http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CLT/pdf/1954_Convention_EN_2020.pdf.

Property.[289] The landmark 1907 Hague Convention had already stipulated that private property can not be confiscated (art. 46), forbade pillaging (art. 47) and "institutions dedicated to religion, charity and education, the arts and sciences shall be treated as private property," (art. 56).[290] As Sidney Zabludoff writes, "soon after regaining their independence, all occupied countries put in place restitution regulations."[291] Italy was the first, issuing a decree in January of 1944, and by the end of 1945, others including Germany's partners (Bulgaria, Hungary, and Romania), as well as the neutral countries (Portugal, Sweden and Switzerland) passed legislation related to the recovery of stolen property that had ended up in their country. Then at the 1945 Paris Conference the Allies agreed that the Jews as a special group should be guaranteed the right to demand payment of lost property from Germany.[292]

After occupying Germany, the Allies moved to safeguard stolen property. The U.S. government instructed prompt restitution, however, only since 1947 the USA, the UK and France could introduce restitution laws in their zones of West Germany. In the Soviet zone of eastern Germany, the laws on returning property were very limited, and excluded private claimants.[293] During the 1950-1990s, with Israel and Jewish organisations also enacted in the restitution of the looted by the Nazis property.[294] This process has entered a new phase in the late 1990s, when after the World Jewish Congress in 1998, Holocaust survivors began to fight for restitution of their looted property.[295] (Later, since 2014, when the heirs realised they had the right to go-ahead with their claims to their family's stolen

[289] https://unesdoc.unesco.org/ark:/48223/pf0000133378.
[290] Zabludoff, "At Issue: Restitution," 5.
[291] Ibid.
[292] Ibid.
[293] Ibid.
[294] Ibid., 6.
[295] Kurtz, *America and the Return of Nazi Contraband*, 215, 235.

art, high-profile stories of the return of the lost family inheritance appeared in the press.[296])

Finally the ratification process ended up in the 1998 Washington Declaration[297] and the 2009 Terezin Declaration,[298] which together form the bases for dealing with Nazi looted art.[299] The concept of "collective memory" of the war and Holocaust that during the first twenty years was discussed mainly on national level as years went by became an important part of the idea of the European "cultural heritage."[300]

*The aftermath of the World War II in America*

As it was mentioned in the introductory passages to this chapter, America substantially replenished museum collections in the middle of the twentieth century—before the war, when German "degenerate art" was sold for a pittance and wealthy Jewish art collectors and antiques dealers left Germany and other European countries,[301] and in the post-war years: then the Americans actively saved artistic values of the liberated Europe. The objects sold in the pre-war years formed the basis of many famous American private collections, such as the Peggy

[296] Saskia Hufnagel and Dunkin Chappell, "The Gurlitt 'Collection' and Nazi-Looted Art," in Handbook on Art Crime, ed. by Hufnage and Chappell (London: Palgrave Macmillan, 2019), 587-603.
[297] The Washington Principles on Nazi-Confiscated Art are available at: https://www.state.gov/washington-conference-principles-on-nazi-confiscated-art/.
[298] 2009 Terezin Declaration on Holocaust Era Assets and Related Issues: https://www.state.gov/prague-holocaust-era-assets-conference-terezin-declaration.
[299] Bianca Gaudenzi and Astrid Swenson, "Looted Art and Restitution in the Twentieth Century—Towards a Global Perspective," *Journal of Contemporary History* 52, no. 3 (2017): 507.
[300] Gaudenzi and Swenson, "Looted Art and Restitution," 505-509. See also Sophie Cœuré, "Cultural Looting and Restitution at the Dawn of the Cold War: The French Recovery Missions in Eastern Europe," *Journal of Contemporary History* 52, no. 3 (2017): 588-606; Dan Diner, "Restitution and Memory: The Holocaust in European Political Cultures," *New German Critique*, no. 90 (2003): 36–44.
[301] Nicholas, *The Rape of Europa*,

Guggenheim collection.[302] After the war the National Gallery of Art in Washington, grounded in 1937, substantially enlarged its collection with multiple acquisitions of Nazi looted art.[303]

The official position of the USA of reparation was to return works to the nations from which they had been taken. Special local commissions had to decide if sales had been forced or not, and often based their decisions on the impeccable German records. In cases of "the so-called heirless property of all categories, principally confiscated from Jews," the Americans transferred responsibility to the Jewish diaspora, or precisely to the Jewish Restitution Successor Organization.[304]

"The most diplomatically delicate issue <...> was the 202 German paintings taken to the United States for preservation in 1945."[305] The 202—as the Berlin paintings were popularly called—arrived in Washington in 1945 under military escort and remained there until 1948, when General Clay recommended returning them, and in the same 1948, they were returned to Germany. A special program called the Monuments Men (or the Monuments, Fine Arts, and Archives, MFAA) had rescued these paintings from a salt mine in central Germany where the Nazis had housed thousands of evacuated treasures, among which were works by Daumier, El Greco, Rembrandt, Rubens, Tintoretto, and Botticelli.[306] These events formed the basis of George Clooney's film *The Monuments Men* (2014).

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[302] "About Peggy," Peggy Guggenheim Collection's official website, https://www.guggenheim-venice.it/en/art/in-depth/peggy-guggenheim/about-peggy/.
[303] World War II Provenance Research, National Gallery of Art, Washington (official website), https://www.nga.gov/collection/wwii-research.html.
[304] Lynn H. Nicholas, "World War II and the Displacement of Art and Cultural Property," in *Spoils of Wars—World War II and Its Aftermath: The Loss, Reappearance, and Recovery of Cultural Property*, ed. by Elizabeth Simpson (Harry N. Abrahams, New York: 1997), 44.
[305] Kurtz, *America and the Return of Nazi Contraband,* 143.
[306] Ibid., 145, "Monuments Men and the National Gallery of Art: The Inside Story," Communications Office of the National Gallery of Art (December 20, 2013), https://www.nga.gov/press/2013/monumentsmen.html, Nora McGreevy, "When the Monuments Men Pushed Back Against the U.S. to Protect Priceless Art," *Smithsonian Magazine* (July 2021), https://www.smithsonianmag.com/smart-news/monuments-men-world-war-ii-nazi-art-cultural-heritage-180978131/. See also Robert M. Edsel, Brett Witter,

The United States handled most of the looted cultural property in Europe in 1945. More than 1.6 million items were inventoried and returned to foreign governments by the end of American operations there in 1949.[307]

*France and the issue of restitution of the Nazi looted art*

As Sophie Cœuré writes, "France was massively affected by Nazi looting and plundering, and was also probably one of the most successful countries in securing the return of cultural property."[308] In spite of the liability of Vichy, firstly the government of General de Gaulle and then the Fourth Republic "had managed to emerge as victors and to participate in the occupation of Germany and Austria."[309] The French involvement in the post-War recovery operations could be compared to this of the Soviets.[310] Though there were some differences, and they especially deepened when the debate on the cultural property opened at UNESCO in 1949 without the USSR, which at the eve of the Cold War refused to join the 'pro-American' body. Even during the 1960s, the differences remained strong and discussions were internal to both sides: the socialist block and the Western countries.[311]

In 1942 the Allies began to make plans for their recovery operations and already in 1943 the first common principles were laid: they defined "open

*The Monuments Men: Allied Heroes, Nazi Thieves, and the Greatest Treasure Hunt in History* (New York: Center Street, 2009).

[307] Victoria Reed, "Wartime Loot in American Museums," in *The Preservation of Art and Culture in Times of War*, Claire Finkelstein et al. (United States: Oxford University Press, 2022), 333.

[308] Sophie Cœuré, "Cultural Looting and Restitution at the Dawn of the Cold War: The French Recovery Missions in Eastern Europe," *Journal of Contemporary History* 52, no. 3 (2017): 587.

[309] Cœuré, "Cultural Looting and Restitution," 587.

[310] Ibid., 588.

[311] Ibid., 589-590.

looting" and "plunder" committed by Germany.[312] The time for the full scale operation came in 1945. France, which despite its dubious participation in the War, has a special place in the restitution process of the post-War Europe: they were not a participant of the Potsdam conference (1945), and the "Big Tree" didn't allow them reparations in money; and, at the same time, the French were the most systematic in search for lost valuables.[313] It was in 1945, France initiated a number of organisations and entities both in their territory and in Germany.[314] The process of cooperation with the Socialists countries lacked mutual trust, as Cœuré writes, and nevertheless relied on personal interaction—when the political climate was appropriate. So, diplomats sometimes made worked secretly on recovering: "when France considered returning paintings that were purportedly from the Riga museum, 'provided that we obtain in exchange French works of art located in the Soviet zone', it also sought to 'avoid engaging on the very principle of restitution to Baltic countries', which were annexed by the USSR in 1940."[315]

In the 1950s, the relationship between the Allies began escalating[316], and the restitution process "has become uneven" (quotations mine). During this period, for example, the bilateral agreement with Poland concerning the reciprocal restitution of looted property located on each territory was suspended. Another important episode was the Berlin blockade (1948-1949), that not just complicated the work, but also led to "the disengagement of the USA and of the USSR in favour of the two Germanys."[317]

The major Nazi repositories and hiding places with the French items were sometimes outside the Frech occupaion zone, and that, even despite the well-coordinated work between the counties, sometimes led to cumbers. For example,

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[312] Ibid., 597, Zabludoff, "At Issue: Restitution," 4.
[313] Cœuré, "Cultural Looting and Restitution, 597.
[314] Ibid., 591, 597.
[315] Ibid., 597n37.
[316] Ibid., 594, Michael J. Kurtz, *America and the Return of Nazi Contraband: the Recovery of Europe's Cultural Treasures* (Cambridge University Press, 2006), 177.
[317] Cœuré, "Cultural Looting and Restitution," 598.

Poland with difficulty returned to the French cultural property that fell into their territory during the war. By 1954, France had recovered only half of the lost works—about 60,000 items.[318] Besides, in the 1950s, when the East-West relationship became depleted, the French faced more problems that obstructed their work in the Eastern Germany than in the Western.[319]

As it was told earlier, France and the Soviets have many things in common in regards to their recovery politics: both these counties heavily looted during the war substantially extended the notion of "cultural property"; secondly, the main French recovery agency CRA went not only for expensive and highly valuable works of art, but also for furniture, carpets and other household goods—and their modus operandi, thus, was similar to that of the USSR with their extensive interpretation of recovery goods; and thirdly, as Cœuré mentioned, both these countries "were particularly interested in cannons and flags as national symbols." However, if the CRA recovered the items of low value—such as books and furniture—intending to satisfy the demand of Jewish victims who left the country; the motivation of the Soviets with their nationalization politics was different. The other great difference was that if the French side had a total inventatization of their losses, the Soviets instead removed everything that was within their field of vision.[320]

*The Soviet "trophy" art*

The Soviets pursued a course very different from that of the Allies, in spite of some similarities, as those mentioned by Cœuré. While the Western Allies were willing to restitute them to their countries of origin, the Soviet Union took them

[318] Ibid., 600.
[319] Ibid., 605.
[320] Ibid., 601-602.

as "trophy art."[321] As Michael Kurtz writes, "Nazi depredations naturally fueled Russian hate. After helping to bring the Germans to their knees, the Soviets were in no mood to show mercy."[322] The Russians who felt their efforts in the Nazi defeat were central, and willing to compensate for their sufferings, felt no need to return the property of other countries. Their Trophy Commission removed thousands of objects to refill and restore devastated museums.[323]

Losses overall for the Soviets were severe: about 400 museums plundered, and 2000 churches and synagogues destroyed or damaged. The imperial complexes around Leningrad were a particular target by Germans. So, the Nazis took 34,000 objects from the Peterhof Palace complex, which were not evacuated to Siberia, including the famous panels from the Amber Room and shipped them to Königsberg.[324] The panels were made in Prussia, and thus, according to the Nazi ethics, were considered worthy of saving, while many of the Soviet cultural property was destroyed or at least ransacked, since the cultures of the East European nations were seen as lower in comparison to the West by the Nazis.[325]

The amount of Russian "trophy" art was mostly shrouded in mystery until 1991,[326] when Russian art historians Konstantin Akinsha and Grigorii Kozlov revealed to a great audience the existence of the so-called Trophy Brigades, and the fate of millions of artworks, in a groundbreaking *ARTNews* article.[327] These Trophy Brigades operated in 1945-1946 and "had claimed an estimated 2.5 million artworks and 10 million books and manuscripts." The looted or trophy art

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[321] Robert Fohr, Report on France, *Spoils of War*, no. 3. (December 1996), 40.
[322] Kurtz, *America and the Return of Nazi Contraband*, 179.
[323] Ibid.
[324] Mikhail Shvidkoi, "Russian Cultural Losses in World War II," in *The Spoils of War*, 68-69.
[325] Nicholas, "World War II and the Displacement of Art and Cultural Property," in *The Spoils of War*, 41, Kurtz, *America and the Return of Nazi Contraband,* 27.
[326] Lina M. Monten, "Soviet World War II Trophy Art in Present Day Russia: The Events, the Law, and the Current Controversies," *DePaul Journal of Art, Technology & Intellectual Property Law*, vol. 15, no. 1 (Fall 2004), 14-19.
[327] Konstantin Akinsha and Grigorii Kozlov, "Spoils of War—The Soviet Union's Hidden Art Treasures," *ARTnews* (April 1991).

(depending on the position the reader chooses) were hidden away, with one big exception. During the first years of Khruschev's rule , between 1955 and 1958, the USSR returned 1.5 million artworks to the government of East Germany as a gesture of goodwill.[328] As a Pulcinella's secret it existed till the fall of the Soviet Union when the positions of two countries seemed to be ready to sit down at the negotiating table. However, in 1995, fifty years after the end of the Second World War, two main Russian museums opened exhibitions displaying works of art that were considered lost or destroyed (one of the exhibition was even titled "Twice Saved," alluring to the victory in the war and the salvation of these works by Soviet conservators), and the same anniversary year, Russian Parliament "proposed a law halting further cultural restitution, effectively mandating the works stay in Russia."[329]

During the decades following the Cold War and especially the collapse of the USSR, Russia and Germany have been arguing over the fate of tens of thousands of works of art that the Soviet Union seized and demanded as compensation for the incalculable damage caused by the Nazi invasion.[330] Even though the position of both German and Russian governments in the question of possible restitution of "trophy art" are tough enough, there are some slight shifts—usually permitted on a lower level. For example, in 2000 the Kunsthalle Bremen arranged a trade with the Catherine Palace in St Petersburg.[331] In 2000, a Russian law came into force that distinguishes between illegal trophies taken without military sanction and "legitimate" trophies, which Moscow sees as partial restitution of the 27 million lives lost during the Holocaust. In 1997, the Russian

[328]Jessica Loudis, "Haul of Shame—The 'Trophy Art' Taken from Germany by the Red Army," *Apollo* (January 6, 2020), https://www.apollo-magazine.com/red-army-trophy-art-germany/.
[329] Ibid.
[330] See Monten, "Soviet World War II Trophy Art."
[331] Loudis, "Haul of Shame."

Parliament voted overwhelmingly to approve Russian ownership of these works of art seized from Nazi Germany.[332]

*The situation in Germany after the war*

The situation with restitution in Germany is radically different from the countries of the Allies, since the German society, before the reunification of Germany, hushed up the issues of historical memory and, accordingly, the related issues of the provenance of values lost during the years of Nazism. Tilmann von Stockhausen in his essay[333] writes that objects the provenance of looted or sold during the "forced" sales and auctions between 1933 and 1945 was fostered only in 1990s, when the Washington Declaration (1998) and the Joint Declaration (1999) had obliged German museums to actively investigate the origin of works of art that might have been sold under threat or stolen during the era of National Socialism. However, the systematic research was hampered by the absence of national standards and no restitution practices were changed since 1999.[334] Among the reasons for this state of affairs, Stockenhausen calls the museums' concern for fast acquisitions in the years after World War II, even with a certain neglect to provenance; lack of interest in issues of provenance—"either consciously or subconsciously generated by the instinct to obscure over the past,"[335] and what is more important, the flee of a large number of art experts and museum curators between 1933 and 1945.[336]

Another author Christel Force noticed the striking difference between the German provenance approach due to these historic obstacles and the American.

[332] Monten, "Soviet World War II Trophy Art," 31-45.
[333] Tilmann von Stockhausen, "The Failure of Provenance Research in Germany." In *Provenance: An Alternative History*, 124–136.
[334] Stockhausen, "The Failure of Provenance," 124.
[335] Ibid., 134.
[336] Ibid.

While the first is more historical, the second is more "data-oriented." For the American approach Force introduces a portmanteau "provenancer" that reflects the search done in "a telegraphic, authorless format" across multiple databases, "where granularity and searchability prevail over scholarly analysis."[337] According to her, the historical prerequisites for the formation of such a code are as follows: in June 1988, the Association of Art Museum Directors' issued Report on Nazi Art Looting, a few months later the Washington Principles were formulated, and then, the American Alliance of Museums' Recommended Procedures came to fruition. During the following decades art museums across the United States dedicated much of their resources to replenishment of databases and adjustment of their websites, which whenever possible should present the most reliable provenance information on works in their collections (and though the driving impulse was to restore historical justice to art that came to America from the Continental Europe during the twentieth century, this approach became universal in the USA and spread to the art of other countries and many various epochs). However, as Force concludes, "despite these colossal research projects, the perception lingers that museums tackle this task reluctantly and ineffectually."[338]

According to Force, the reasons why the German approach is more historical and less "data-oriented," lie in the way funding for provenance projects is allocated. The German practice of funding is the following: provenance researches are funded on the federal level, contracts are predominantly short-term, and their results, if only not reg flags, rarely are posted online. However, public accessibility still takes place, but in a different form. Germans prefer provenance-focused public exhibitions, not uploading every piece of information online. Besides, the exhibitions go hand in hand with scholar publications, and their works "foster a true understanding of [the research process] and genuine interest

[337] Ibid., 29.
[338] Ibid.

in the complexities and relevance of provenance, in sharp contrast with American [tradition] <…> focused on discrete, contextless strings of names."[339]

If the French looting of Napoleon wars first introduced the narrative of "national art," "national heritage," and "national museum" with the revolutionary translocation of artworks across Europe, "creating an international chase for objects across the globe to fill the new treasure houses, which was legitimised by the ideas that this 'plunder' constituted an act of 'preservation'," then the German middle-century looting strongly challenged the established order and international legislation on pillaging and the wilful destruction of cultural property, which took shape thanks to the first restitution that began after the defeat at Waterloo (see above) and very similar course of events followed the World War I and especially the Treaty of Versailles with its reparation clauses.[340] The next Part will be dedicated to a new, visible and significant shift in the attitudes towards provenance and the accounting for cultural values, marked by the rise of the use of new technologies and the development of the Internet.

[339] Ibid., 32.
[340] Bianca Gaudenzi and Astrid Swenson, "Looted Art and Restitution in the Twentieth Century—Towards a Global Perspective," *Journal of Contemporary History* 52, no. 3 (2017): 503–504.

# Part III. Blockchain and preceding findings on provenance technologies in art. The present and the future

As previously stated, the method of conducting provenance research in any given case depends on a variety of factors, and differences in mindset or cultural context can be explained through history: for instance, research in Germany, with its more historical and less "data-oriented" approach, differs from customary practice in the United States, where provenance research is instead performed by "the expert in charge of online provenance research projects in <...> museums, whose lingo is elliptical and anonymous,"[341] as well as legal questions, such as whether a particular country affirms *droit de suite*[342] or whether an artist signed any sort of legal agreement. In addition, the process of provenance research depends on the art object in question: for obvious reasons, a work from a German collection that has for any reason not gone through a restitution process will demand special treatment of its documentation—assuming that the "grey market" is not part of the equation. However, given the numerous types of digitized information and databases available today, accurate determination of provenance demands more meticulous and thorough research than ever.

During the last two decades, new technologies have joined these expansive datasets to further the study of provenance, from open-source tools to artificial intelligence algorithms to augment expertise in determining originality—and, of course, blockchain technology.

[341] Force, "Intellectual Property and Ownership History," 29.
[342] *Droit de suite* (sometimes also Artist's Resale Right) "is a technique designed to furnish artists with a portion of the increase of their works when they are resold." Monroe E. Price and Aimée Brown Price, "Rights of Artists: The Case of the Droit de Suite," *Art Journal* 31, no. 2 (1971), 144.

## *Science: data-based provenance*

The technologies of automated data acquisition and OCR (optical character recognition software), were followed by "big data"[343] methodologies, and linked open data in particular, used to build new indexes and provenance systems. One of the resulting projects is the Art Tracks Digital Provenance Project, led by the Carnegie Museum of Art. It is an open-source tool set for building a structured data map of existing written provenance records, which can then be searched and used by institutions around the world. It allows those institutions to find common traits and points of historical tangency among works in their collection, as well as gaps in knowledge or sites for growth in their curatorial policies. Collectively, this data and its freedom of accessibility enables the international museum community to collaborate in a more sustainable and holistic way.[344]

[343] See footnote 14 on p. 14.
[344] Huemer, "Provenance of Provenances," 10–12.

## *Artificial intelligence*

Artificial intelligence (AI)[345] is also enjoying increased popularity today in the art field, gaining traction among major market players like large museums, cultural institutions and auction houses. Contrary to popular belief, AI is not an entirely new discipline. Many of its foundational principles are grounded in the historical disciplines of philosophy, logic, mathematics, reasoning theory, cognitive psychology and linguistics.[346] Science fiction about robots and humanoids, combined with the advent of military technologies for cryptography and ballistics calculations, inspired the establishment of AI as an applied discipline after World War II. The theoretical foundations of AI trace their roots to a ground-breaking work by Alan Turing, as well as Warren McCullough and Walter Pitts' work on simple neural networks. AI was first proposed as a discrete field of research during the 1956 Dartmouth Summer Research Project, which was to usher in the first "spring" of AI research.[347] The vibrancy and vitality of AI research was evident to its proponents even before its widespread adoption: John McCarthy, who coined the term "artificial intelligence" in 1956, quipped that "as soon as it works, no one calls it AI anymore."[348]

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[345] "Artificial intelligence (AI), the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalise, or learn from past experience." Jack Copeland, "Artificial intelligence," in *Britannica* (web version), https://www.britannica.com/technology/artificial-intelligence.

[346] Richmond Thomason, "Philosophical Logic and Artificial Intelligence," *Journal of Philosophical Logic* 17, no. 4 (1988): 321–327.

[347] Stephan De Spiegeleire, Matthijs Maas and Tim Sweijs, "What Is Artificial Intelligence?" *Artificial Intelligence and the Future of Defense: Strategic Implications for Small- and Medium-Sized Force Providers* (Hague Centre for Strategic Studies, 2017), 31. See also Matthew L. Jones, "How We Became Instrumentalists (Again): Data Positivism since World War II," *Historical Studies in the Natural Sciences* 48, no. 5 (2018): 673–684.

[348] Cit. in Stephan De Spiegeleire, Matthijs Maas and Tim Sweijs, "AI—Today and Tomorrow." Ibid., 44–45.

In recent years, use cases of AI have reached a critical mass of adoption. This is primarily thanks to improvements in the precision of algorithmic predictions, which can be traced to developments in neurobiology and computer science—in particular, the work of Geoffery Hinton and Russ Salakhutdinov,[349] the first scientists to develop powerful methods for neural network image recognition. These leveraged the mass availability of powerful computers, high network speeds, the rise of cloud infrastructure, the effective use of big data and most importantly, open access to large datasets (both hand-picked and automatically generated from sources like social networks) for use in teaching and testing large-scale machine learning networks. In addition, AI research has benefited from expanded funding and talent, especially from major private-sector players like Apple, Amazon, Baidu, Google, Facebook, IBM and Microsoft.[350]

The determination and verification of provenance are historically labour- and time-intensive processes for researchers at auction houses. Daria Parfenenko, Associate Director of Christie's for Russia and the CIS, describes them as follows: "We study documentation and photographies in the owner's possession. After that, we look for mentions of the work in exhibit catalogues, published books and journals, and in some cases refer to letters and diaries of the artists and collectors themselves. We also check them against a database of stolen works and works marked for restitution."[351] This creates an enormous amount of data, and the computation power inside widely available AI tools can streamline this potentially tedious and repetitive work while improving results.

For example, 2018 saw one of the most interesting applications of AI to the study of art objects and the determination of their provenance—a project by the Mauritshuis and Museum Het Rembrandthuis, in collaboration with Microsoft and advisors from Delft University of Technology (TU Delft), the Next

[349] Geoffrey E. Hinton and Ruslan R. Salakhutdinov, "Reducing the Dimensionality of Data with Neural Networks," *Science*, vol. 313, no. 5786 (2006): 504–507.
[350] Stephan De Spiegeleire et al., "What Is Artificial Intelligence?," 36.
[351] See Appendix on p. 202.

Rembrandt.[352] For this project the entire body of Rembrandt's work was examined, with every inch of his paintings explored in microscopic detail through super high resolution photographs of his paintings. In the result, the team of the project acquired a broad range of materials like high resolution 3D scans and digital files, upscaled using deep learning algorithms to maximise resolution and quality. This extensive database was then used as the foundation for creating so-called The Next Rembrandt. The data were used as the basis for the creation of a "new work" by Rembrandt artificially "painted," or compiled, several centuries after his death. Researchers studied both the characteristic features of his figures, their clothing and backgrounds as well as the specific elements and nuances of his colours, strokes, topography of paint on his canvases and more. For example, to mimic Rembrandt's brushstrokes, the researchers created "a height map using two different algorithms that found texture patterns of canvas surfaces and layers of paint," and with this information they managed to set height data.[353]

This was a momentous feat of computer modelling, but more importantly, it showed the potential for an alliance between cutting-edge computer science and the age-old, but equally demanding practices of art historical research. Ron Augustus, Microsoft's SMB Markets Director, offered a salient reflection on this advance, saying, "This project shows a spark of the possibilities of intelligent data. Data is the new electricity, it has huge potential to help people and companies to achieve more. The project brings together my true passions: the way companies can grow efficiently by the use of technology and my background in art history. It is not often that these two worlds come together."[354]

This experimental project offers an excellent example of artificial intelligence's utility for studying art objects at a level of detail beyond the abilities of the most seasoned professional, systematising them and enabling future

[352] https://www.nextrembrandt.com.
[353] "04, Bringing It to Life," https://www.nextrembrandt.com.
[354] "The Next Rembrandt," *Microsoft News* https://news.microsoft.com/europe/features/next-rembrandt/.

analysis to identify forgeries that were mistakenly included in a given collection. However, since this process was more a PR stunt, it bears *some* pitfalls that must be properly understood if they are to be avoided. The general audience doesn't know if all of the explored works were painted by Rembrandt Harmenszoon van Rijn himself. Maybe *some* of them were by the school of Rembrandt, if not fakes. Simply put, art historians were faced with an exciting question: can machine learning detect fakes?

A year later, in the beginning of 2019, the Metropolitan Museum of Art together with Microsoft and the Massachusetts Institute of Technology (MIT) held a hackathon to explore how artificial intelligence could be applied to about two million works of art in the Met's collection using an API for images, data, and a new keyword data set. The goal of this collaboration was "to discover, learn, and create with one of the world's foremost art collections through artificial intelligence."[355] This step also accounted for the issue of provenance by using AI to systematise an enormous number of details for artworks in the collection of one of the largest world's museums.

Later in 2019, as part of the Amelia Conference (ARCA's Annual Interdisciplinary Art Crime Conference,[356] in which I participated) Richard Bronswijk, senior inspector of the Art and Antiques Crime Unit of the National Police of the Netherlands mentioned in his presentation about the illegal cultural goods trade[357] that the majority of illegally exported or stolen antiquities and art objects are now being sold on sites like eBay and Facebook. The solution to this

[355] The Met x Microsoft x MIT, Metropolitan Museum of Art (official website), https://www.metmuseum.org/about-the-met/policies-and-documents/open-access/met-microsoft-mit.

[356] The conference took place on June 21–23, 2019 at Collegio Boccarini Conference Hall Adjacent to the Museo Civico Archeologico e Pinacoteca Edilberto Rosa Amelia, Italy. The Association for Research into Crimes against Art (ARCA) (official website), https://www.artcrimeresearch.org/the-amelia-conference-2019-arcas-annual-interdisciplinary-art-crime-conference/.

[357] As I know, there wasn't any publication after this conference—partly, because of the Covid-situation.

kind of illegal trade activity (on which work is already being conducted) requires specialised AI-based programs that could identify suspicious posts based on specific criteria and photographical nuances and notify the appropriate investigative agencies.

If 2018's The Next Rembrandt was essentially a training exercise and PR project to attract the attention of a wider audience to the potential for using AI in art, studies from 2021 have brought about major qualitative advancements in this field. These recent studies show how the use of AI in the art field has led to specific discoveries related to questions of originality and authenticity of works of art, all in record time.

One such project led to the reattribution of the National Gallery's *Samson and Delilah* (c. 1609–1610). The attribution of this painting to Peter Paul Rubens has been debated for centuries. When *Samson and Delilah* made yet another appearance on the market in 1929, it was presented as a work by Dutch Caravaggist Gerrit van Honthorst. Renowned art historian Ludwig Burchard quickly declared it a Rubens, but questions remained as to the work's style and origin. In fall months of 2021, several media outlets wrote that a Swiss company Art Recognition, specialising in the use of AI to assess the authenticity of artworks, calculated with 91.78% confidence that *Samson and Delilah* was not painted by Rubens. The same company reported that another painting in the National Gallery, *View of Het Steen in the Early Morning* (ca. 1636) was almost certainly (98.76%) painted by Rubens—an attribution that was never in doubt. This news, with its well-validated assertions and unusually precise assessments, surprised veteran researchers who were deeply engaged in the problems of attribution and specialised in the development of AI technologies and scientific research methods. Though this question of the attribution of significant painting in a major museum's collection received some publicity, journalists pointed that without a detailed report on the AI methods used in the study and without peer-

reviewed publication, the conclusions of Art Recognition are difficult to take at face value and not enough to debunk the museum's attribution.[358]

As Ahmed Elgammal, director of the Art and AI Laboratory at Rutgers University, New Jersey, and Adam Finnefrock from Scientific Analysis of Fine Art, LLC, notice in their article "Is AI Really Ready to Solve the Problems that Have Had Art Historians Stumped?,"[359] many widely available AI image recognition algorithms were created to analyse and categorise images that are deeply familiar to a human observer. Common examples include facial recognition or image classification programs (for instance, to identify cats in comparison to dogs). When a work of art is incorrectly attributed—or worse, forged—the images and details in it obviously bear a remarkable resemblance to the original. An AI created to mimic human judgement and (untrained) interpretation will fall prey to the same mistakes on which a forger relies. The AI might mimic an expert's point of view, but cannot improve upon it. However, there is an opportunity here. Forgers aim to deceive the eye and human judgement under visible light, but using other types of illumination, such as infrared or ultraviolet light and pigment identifiers, fakes can be identified almost instantaneously.[360] As The Next Rembrandt shows, the individuality of painted canvas lies in brushstrokes—which in the art world can be compared to fingerprints. As a result, the most promising vector of research is closer examination of such minutiae as the brushstrokes of different artists and tools for their analysis and identification.

Another interesting study was published recently by a group of art historians and physicists from Case Western Reserve University (Ohio, USA) in

[358] Ahmed Elgammal and Adam Finnefrock, "Is AI Really Ready to Solve the Problems that Have Had Art Historians Stumped?," *Apollo* (November 11, 2021), https://www.apollo-magazine.com/artificial-intelligence-authentication-artworks/.
[359] Elgammal and Finnefrock, "Is AI Really Ready to Solve the Problems that Have Had Art Historians Stumped?".
[360] Ibid.

the journal *Heritage Science*.[361] For this study, they asked students at Cleveland Institute of Art to paint copies of a photograph of a water lily, then made three-dimensional topographical scans of the paintings' surfaces, and analysed each of those scans by a half a millimetre using convolutional neural networks, or CNNs—the widely used algorithm for image recognition[362] (e.g. systems of facial recognition are based on these kinds of algorithms). The authors of this study report that they trained the computer system to identify the unique brushstrokes of artists with 96% accuracy.[363] However, the conspicuous weakness in research is that the study doesn't account for changes in movements patterns that occur throughout life; apparently, brushstrokes of Picasso's different periods are different, and at the same time, most probably, the master was able to imitate his own style of some previous years.

The researchers also analysed the painted surfaces of the canvases themselves, rather than high-resolution images of paintings[364]—unlike the Swiss company who debunked the attribution of *Samson and Delilah,* or the researchers at Rutgers University who published a study in 2017 that analysed more than 80,000 2D photographs of individual strokes in 300 drawings by artists like Matisse, Picasso, and Schiele in order to identify individual artists.[365]

Apart from these advantages, I would like to focus on some shortcomings and causes for healthy scepticism regarding the use of artificial intelligence in art

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[361] Fang Ji, F., Michael S. McMaster, Samuel Schwab et al. "Discerning the Painter's Hand: Machine Learning on Surface Topography," *Heritage Science*, vol. 9, no. 152 (2021), https://heritagesciencejournal.springeropen.com/articles/10.1186/s40494-021-00618-w.
[362] Ji, McMaster, Schwab et al., "Discerning the Painter's Hand."
[363] Ibid.
[364] "New AI Tool Identifies Artists' 'Fingerprint' Brushstrokes" (blogpost), Boodle Hatfield LLP, *Art Law & More* (blog), January 6, 2022, https://artlawandmore.com/2022/01/06/new-ai-tool-identifies-artists-fingerprint-brushstrokes/#page=1.
[365] Ahmed Elgammal, Yan Kang, and Milko Den Leeuw, "Picasso, Matisse, or a Fake? Automated Analysis of Drawings at the Stroke Level for Attribution and Authentication," *arXiv preprint* (November 2017), https://arxiv.org/pdf/1711.03536.pdf. The shortened version was later published in *Proceedings of the AAAI Conference on Artificial Intelligence*, vol. 32, no. 1 (2018).

studies. Firstly, each of the aforementioned studies developed their own combinations of algorithms for their own particular use case and research aims, rather than adopting a multi-pronged or generalist approach. Secondly, following Jo Lawson-Tancred,[366] "deep learning can produce a 'black box,' meaning that how an algorithm reaches its conclusions cannot always be explained." Finally, the process of AI development in this field can easily be hampered by established and conservative institutions uninterested in challenging long-standing attributions, however dubious they may be, in the interest of maintaining the status quo. Take, for instance, the continuing dialogue between Germany and Russia about so-called "trophy art," in which massive national institutions avoid any abrupt steps or decisions that could cause ripples in the art world.

For those institutions that choose progress over complacency, clear strategy and savvy planning is required. With time- and resource-intensive projects like AI attribution, the first and most pressing matter is finding a source of funding for research using expensive, high-resolution scanning and processing of the resulting terabytes of data. Will fellow institutions be willing to share their collections for collaborative study, or will they focus instead on expert assessment of the most controversial cases?

[366] Jo Lawson-Tancred, "Can Machines Do Art History?," *Apollo* (December 3, 2021), https://www.apollo-magazine.com/ai-machine-learning-art-history/.

## *Blockchain*

Innovations in information technology have played essential roles in the economy of art's creation, consumption and distribution throughout history. One such technology today is the blockchain. In her article on its prospects within the art world, Amy Whitaker writes, "Blockchain technology, while commonly associated with cryptocurrencies, stands to bring radical structural change to the arts and creative industries."[367]

The blockchain is a complex and evolving entity, but if we were to summarise it in a single sentence, we could call it a special database structure with carefully described and strictly enforced access and change policies. Following its inception, blockchain technology quickly found an application in the art sector,[368] making art objects more accessible, offering a range of new ways to create and appreciate art for collectors, art galleries, museums, art brokers and artists. Over the course of this work, we will take a more detailed look at the nature of the blockchain and the potential it offers the art world through a variety of examples and cases.

### *Basic concepts*

The challenge in working with a technology as dynamic as the blockchain is that definitions are numerous, scattered and sometimes dissonant. For instead, in *Blockchain and the Law: The Rule of Code*, published in 2018 by Harvard University Press, authors suggest such description of blockchain: "Blockchains exhibit a set of core characteristics, which flow from the technology's reliance on a peer-to-peer network, public-private key cryptography, and consensus

[367] Whitaker, "Art and Blockchain," 21.
[368] For example, the Scarab project created in 2014 was one of the first in this field https://www.thescarabexperiment.org (will be mentioned later in this work).

mechanisms. Blockchains are disintermediated and transnational. They are resilient and resistant to change, and enable people to store non repudiable data, pseudonymously, in a transparent manner. Most—if not all—blockchain-based networks feature market-based or game-theoretical mechanisms for reaching consensus, which can be used to coordinate people or machines."[369] In applying this definition to work with art, we need to place special emphasis on the fact that this technology is "resistant to change, and enables people to store non repudiable data"—unquestionably important characteristics for issues of provenance.

IBM offers a more practical definition of this technology's mechanics and capabilities: "Blockchain is a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network. An asset can be tangible (a house, car, cash, land) or intangible (intellectual property, patents, copyrights, branding). Virtually anything of value can be tracked and traded on a blockchain network, reducing risk and cutting costs for all involved."[370]

Still, it's hard to contextualise exactly how such lofty goals might be realised in the real world. Deloitte, an international accounting firm, takes the aforementioned concepts one step further towards practical application: "You (a **'node'** [bolding in the original]) have a file of transactions on your computer (a **'ledger'**). Two government accountants (let's call them **'miners'**) have the same file on theirs (so it's **'distributed'**). As you make a transaction, your computer sends an e-mail to each accountant to inform them.

"Each accountant rushes to be the first to check whether you can afford it (and be paid their salary **'Bitcoins'**). The first to check and validate hits 'REPLY ALL', attaching their logic for verifying the transaction (**'proof of work'**). If the

[369] De Filippi and Wright, *Blockchain and the Law*, 33.
[370] "What Is Blockchain Technology?," IBM (official website), https://www.ibm.com/topics/what-is-blockchain.

other accountant agrees, everyone updates their file…"[371] If in IBM's definition, it is worth noting the concept of a "shared, immutable ledger" and that the technology "facilitates the process of recording transactions and tracking assets,"

As De Filippi and Wright write, "the story of digital contracts[372] began in June 1948, when the Soviet Union cut off road, rail, and barge access to western Germany and parts of Berlin. In response, the United States and its allies began the Berlin Airlift, sending more than two million tons of food and other supplies to the divided city. To organise and keep track of the mountains of cargo sent to West Berlin on a daily basis, U.S. Army Master Sergeant Edward Guilbert developed a 'manifest system that could be transmitted by telex, radio-teletype, or telephone.'"[373] Since those first steps in military logistics, the amount of data circulating around the world has exploded. The World Economic Forum calculated that by 2020, the number of bytes of information in the digital world will be 40 times bigger than the number of stars in the observable universe, and by 2025, they estimate that 463 exabytes of data will be created each day globally—the equivalent of 212,765,957 DVDs.[374] Our social, political and economic systems rely on an ability to work quickly and accurately with this mass of data—a task for which blockchain is ideally suited. It can share information transparently, stored in an immutable ledger that can only be accessed by authorised members of the network. The blockchain network can track orders, payments, invoices, production and more, and access to complete transaction

[371] Richard Bradley, "Blockchain Explained... In Under 100 Words," Deloitte (official website), https://www2.deloitte.com/ch/en/pages/strategy-operations/articles/blockchain-explained.html.

[372] "Digital contracts are the simplest building blocks because their payoffs are either 'on' or 'off'." More about digital contracts, *see* Jonathan E. Ingersoll, Jr., "Digital Contracts: Simple Tools for Pricing Complex Derivatives," *The Journal of Business* (vol. 73, no. 1, 2000), 67–88 (67).

[373] De Fillipi and Wright, *Blockchain and the Law*, 72–73.

[374] Jeff Desjardins, "How Much Data Is Generated Each Day?," World Economic Forum (official website), April 17, 2019, https://www.weforum.org/agenda/2019/04/how-much-data-is-generated-each-day-cf4bddf29f/.

details and history bolsters the confidence of all users and stakeholders. In a sense, the blockchain is a kind of global distributed computer, capable of storing enormous amounts of data and sharing the computational burden among all of its users.

Why is this type of computer better than others? Andy Alekhin, CEO of Snark.art, an art production focused on exploring the potential of the blockchain, offered the following anecdote. Imagine a class full of students. The teacher writes down each of their grades: one gets a C, the other gets an A. Difficulties may arise with this form of writing: the teacher could make a mistake, or the students may imperceptibly correct during recess. Now imagine that all students in the classroom keep such journals of grades at the same time. The teacher says: "John, you got C," and everyone writes it down. If someone writes down an undeserved A for themselves, the rest will correct him or her right there. This is how blockchain works: all computers connected to the network at the same time do the same job. Therefore, the system, on the one hand, is not very efficient. On the other hand, it is protected from deliberate and unintentional mistakes. Imagine that the same students in the class have computers. They all run Facebook at the same time, the servers from which belong to Zuckerberg. And if Mark at some point decides to change the algorithm for issuing some information (and he has done this more than once), the students will not know anything about it. But if Facebook worked on the blockchain, Mark would have to go to 51 percent of users and convince each of them to change the algorithm. Simply put, in the blockchain, no change goes unnoticed—the community must approve it.[375]

The blockchain is a system that eliminates any need to *trust* the good intentions of actors within it. In eliminating that uncertainty, the technology became very attractive to the community as a financial tool. Cryptocurrencies appeared, and people with the help of this technology began to record who owes

[375] From a personal conversation with Andy Alekhin, CEO of Snark.art.

whom how much. Bitcoin first appeared, followed by hundreds of other cryptocurrencies. Afterwards, developers and involved society understood that blockchain could be used not only for underwood currencies but also in any other field where the provenance is important.

This system can be of great value to digital art, which, over the sixty-plus years of its existence,[376] has needed to reckon with ownership and provenance: much like with traditional art, it is a challenge to reliably determine ownership and control the number of copies in existence. Until now, this has been done simply on faith to the artist and art owners that they will not make more copies than they should. But with the development of blockchain technology, a fresh idea came up: keeping a register of digital art owners on the blockchain. Thus, we can reliably limit the number of copies, track their history and fully own them.

In speaking about the blockchain in art, we must split our narrative into two directions. The line between them is a fine one, but necessary all the same. The first thread is dedicated to the technology's application on its own merits within the art field. The second focuses on the technology as applied to an essentially new type of art, the NFT, which was created using the foundations of the

[376] Digital art is an artistic work or practice that uses digital technology as part of the creative or presentation process. Since the 1960s, various names have been used to describe the process, including computer art and multimedia art. Christiane Paul, "Renderings of Digital Art," *Leonardo* (vol. 35, no. 5, 2002): 471–484 (472). More about reflection of art on the technological development of the second half of the twentieth century *see*: Jasia Reichardt, "Twenty Years of Symbiosis between Art and Science," *Art and Science* (vol. 24, no. 1, January–March 1974): 41–53.

"[T]here are several synonyms and subdivisions: Occasionally, one hears terms such as 'multimedia art,' 'digital art,' 'computer art,' or 'interactive art'; then there is also 'net art,' which is found on the Internet and can be accessed from any personal computer; and finally there is 'installation art' that is characterized by its specific location and concrete materiality." Chris Wahl, "Between Art History and Media History: A Brief Introduction to Media Art." In *Preserving and Exhibiting Media Art: Challenges and Perspectives*, edited by Julia Noordegraaf, Cosetta G. Saba, Barbara Le Maître, and Vinzenz Hediger (Amsterdam University Press, 2013), 25–58 (25). Boris Groys rightly notes that the presence of video art in museums marks the beginning of a new era. While in the past one could spend as much time contemplating a painting as possible, new visual works, with their moving images and accompanying sounds, clearly dictate the amount of time a visitor must invest in order to see the work of art in its entirety (Groys, 2006: 50–57).

blockchain.

## *Historical prerequisites of blockchain in art*

Though many believe that Satoshi Nakamoto's 2008 white paper, "Bitcoin"[377] introduced the blockchain as a new technology, the idea traces its origins significantly earlier. Cryptographer David Chaum first proposed a protocol similar to the blockchain in his 1982 dissertation, "Computer Systems Established, Maintained, and Trusted by Mutually Suspicious Groups." Further work on a cryptographically protected chain of blocks was described in 1991 by Stuart Haber and W. Scott Stornetta. They wanted to implement a system where it would be impossible to change the timestamps of documents. In 1992, Haber, Stornetta, and Dave Bayer included Merkle trees in their project, which increased its effectiveness by allowing it to gather several document certificates in a single block.[378]

A new twist in the development and growth in popularity of the blockchain came in 2017, when the price of a single Bitcoin skyrocketed in value. This attracted an enormous number of scammers and questionable projects to the industry, but simultaneously encouraged the technology to develop with renewed strength (as would be the case in any other field) by exposing these scams and permitting strong teams and companies to create new and groundbreaking projects.[379]

Blockchain technologies, initially used only by financial companies, began

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[377] Satoshi Nakamoto, "A Peer-to-Peer Electronic Cash System" (October 31, 2008), https://bitcoin.org/bitcoin.pdf.

[378] Arvind Narayanan, Joseph Bonneau, Edward Felten, Andrew Miller, and Steven Goldfeder. *Bitcoin and Cryptocurrency Technologies: A Comprehensive Introduction* (Princeton: Princeton University Press, 2016), xx, 15–17;

[379] *Bitcoin Price Historical Chart*, coindesk.com, https://www.coindesk.com/price/bitcoin/. As for multiple accusations in scam *see*, for example, Kate Rooney, "Much of Bitcoin's 2017 Boom Was Market Manipulation, Research Says," *CNBC*, June 13, 2018,

to expand into other fields as well.[380] Though the technology of the blockchain is still in its developmental stages, it serves as the foundation for a series of technological innovations that are themselves laying the groundwork for major social structures. In short, since the early 1980s, the development of the blockchain can have considerable impact for art historians, artists, restorers, collectors, dealers, museums and the wider ecosystem of cultural artefacts and creative industries, all in a relatively short period of time.

As mentioned by Amy Whitaker in 2019, "Blockchain has core use cases in the arts including provenance and authenticity registries, digital scarcity for new media and generative art, fractional equity and shared upside structures, and new forms of copyright registry. Ethereum-based smart contracts and tokens also enable specific investment and intellectual property structures."[381] All of these fields are connected to provenance and the questions of authenticity and originality in one way or another. Since that article was written, a considerable number of technological changes and innovations have taken place that demand the improvement and expansion of certain theses laid out in her work; still, all of

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https://www.cnbc.com/2018/06/13/much-of-bitcoins-2017-boom-was-market-manipulation-researcher-says.html and Jay Adkisson, "The Great Bitcoin Scam," *Forbes*, December 28, 2017, https://www.forbes.com/sites/jayadkisson/2017/12/28/the-great-bitcoin-scam/?sh=85f029c5c1e7 or numerous comparisons with tulip mania, which appeared in large numbers in the late 2017 and early 2018 such as the famous JPMorgan CEO Jamie Dimon's statement on the question or the statement of Nassim Taleb, the author of *Black Swan*. Aaron Brown, "What Jamie Dimon Got Wrong About Bitcoin and Tulips," *Bloomberg*, September 18, 2017, https://www.bloomberg.com/opinion/articles/2017-09-18/what-jamie-dimon-got-wrong-about-bitcoin-and-tulips, Luke McGrath, "Nassim Nicholas Taleb Calls Bitcoin a Tulip Bubble Without the Aesthetics," *Bloomberg*, October 21, 2021, https://www.bloomberg.com/opinion/articles/2017-09-18/what-jamie-dimon-got-wrong-about-bitcoin-and-tulips.

[380] Sam Daley, "34 Blockchain Applications and Real-World Use Cases Disrupting the Status Quo," *Built In,* August 18, 2021, https://builtin.com/blockchain/blockchain-applications.

[381] Whitaker, "Art and Blockchain," 32.

these vectors of development are still relevant.

## *Blockchain in art*

As Whitaker astutely observes, "While blockchain is not, of course, a magical technology <...> a blockchain database becomes a registry of title, meaning legal ownership, then the legal ownership of the work is inseparable from the blockchain provenance. Without transfer of the blockchain record, the artwork's title does not transfer. If market actors chose to transfer a work 'off chain,' the subsequent market would have to decide whether to recognize the title to sell the work."[382] As a result, recent years have seen the appearance of numerous initiatives and startups working to integrate this capability in a variety of ways.

The first big art institution that understood the potential of blockchain and the amounts of money the market driven by cryptocurrencies has (it is difficult to separate one motivation from the other) was the British auction house Christie's. Having hosted the inaugural Art+Tech Summit in 2018, in November 2018, the British auction house Christie's launched the pilot project of a blockchain-based encryption and registration service for works of art. This was done in New York during the auction of the Barney Ebsworth collection. The auction house partnered with art registration service Artory to prepare a digital certificate for the sale of $300 million worth of art. This art sale included works by Georgia O'Keeffe and Edward Hopper.[383] The auction occurred in-person, online and by

[382] Whitaker, "Art and Blockchain," 32–33.
[383] "Artory Collaborates with Christie's on an Industry First: Registration of Major Art Collection Sale with Secure Blockchain Technology—Christie's, the World's Leading Auction House, is the First to Use the Artory Platform," *Business Wire*, October 11, 2018, https://www.businesswire.com/news/home/20181011005616/en/Artory-Collaborates-Christie's-Industry-Registration-Major-Art%5C; Alexandra Luzan, "Painting a Different Picture: How Digital Artists Use Blockchain," *Cointelegraph*, March 4, 2020, https://cointelegraph.com/news/painting-a-different-picture-how-digital-artists-use-blockchain; Mickey Rapkin, "'Beeple Mania': How Mike Winkelmann Makes Millions Selling Pixels," *Esquire*, February 17, 2021,

phone, but all of its transactions were recorded exclusively using blockchain technology. The technical partner in the sale Artory,[384] a blockchain-based fine art registry, managed the registration process for each of the more than 85 works in the collection. Artory and Christie's used an artistic origin tool that employs blockchain technologies in order to compile the chain of custody and authenticity for each of the works sold, all while creating an immutable and cryptographically verifiable record of the transaction.[385]

The first applications of blockchain technology to the art world date to the mid-2000s, with the appearance of marketplaces and auctions selling digital art on the blockchain. Separate real art from memes or digital crafts is a very difficult task, and questions of aesthetic and artistic value are far beyond the topic of this work. However, taking into consideration the abundance of sites that are dealing with NFTs, I will mention only the most respected within the community. These artworks became synonymous with the form in which they were sold: NFTs. For the sake of clarity, let's define this term before we begin our analysis.

### *The NFT world: marketplaces and technological solutions*

An NFT, or a non-fungible token is a non-interchangeable unit of data stored on a blockchain, a form of digital ledger, that can be sold and traded. NFT can represent any digital asset on a blockchain (such as Ethereum, Solana, Flow, Tezos, etc.). The data stored as NFT can take the form of visual art, collectibles,

https://www.esquire.com/entertainment/a35500985/who-is-beeple-mike-winkelmann-nft-interview/.

[384] https://www.artory.com/how-it-works/.

[385] "The Utility of Blockchain for the Fine Art Industry," *Cryptopedia*, December 23, 2021, https://www.gemini.com/cryptopedia/fine-art-on-the-blockchain-nft-crypto.

a creative extension of music or something new. The core difference between digital art per se and digital art on NFT lies in the field of purchasing. A screenshot of any image existing as NFT doesn't allow it to sell at the value of original—and it could be compared to finding a collector for a photo of Mona Lisa. "Every time the NFT moves on the secondary market, the new owner and the price paid is automatically recorded on the blockchain, which is a digital archive of transactions no one can alter and everyone can see. The idea is that by having these certificates of authenticity be publicly available for everyone to view online, NFTs can guarantee the provenance of any asset they are connected to."[386] Thus, crypto art[387] is just digital art that was "driven" through the blockchain, and thus made transparent provenance. Where then does crypto art begin to be disseminated?

It would be impossible (and unnecessary) to list every single digital art marketplace in existence today; instead, I will focus on several major market players.[388] OpenSea, the first and largest marketplace for NFTs, launched its beta version for Ethereum in December 2017; now it tracks NFTs on Ethereum and other blockchains, with all purchases made using cryptocurrency.[389] OpenSea provides an open market: one inherent risk is that a scammer could copy an image of someone else's art and sell it as an NFT on OpenSea. These risks are taken into account: in a press release, OpenSea stated, "the site is working on an automated

[386] "The History of NFTs & How They Got Started," *Portion*, https://blog.portion.io/the-history-of-nfts-how-they-got-started/.
[387] What is crypto art, and how does it work?, *Cointelegraph*, https://cointelegraph.com/nonfungible-tokens-for-beginners/what-is-crypto-art-and-how-does-it-work
[388] Here you can find one of the fullest versions I've came across on the internet https://mlo.art/research/history-of-crypto-art/.
[389] Jeff Kauflin, "What Every Crypto Buyer Should Know About OpenSea, The King Of The NFT Market," *Forbes*, November 23, 2021, https://www.forbes.com/sites/jeffkauflin/2021/11/23/what-every-crypto-buyer-should-know-about-opensea-the-king-of-the-nft-market/?sh=762272d62f89.

way to spot fakes and has moderators who investigate suspicious offerings."[390] There are still some problems that need individual solutions. For example, in September, co-founder Devin Finzer requested the resignation of OpenSea's top manager "after Twitter users discovered a crypto wallet linked to that executive was buying NFTs shortly before they appeared on the price-moving OpenSea home-page—in other words, he was allegedly frontrunning his own employer's decisions."[391] Another popular "open" marketplace where anyone can mint and sell NFTs is Rarible. Again, the verification process is manually performed by the team managing the marketplace.[392] Neither of these marketplaces require applications for acceptance: creators simply connect to a wallet and mint the NFTs. Existing owners of NFTs can also list their NFTs for resale.[393]

SuperRare, another major figure in the market, was launched in 2018 and has since generated over $90 million in sales for artists around the world. Each artwork is authentically created by an artist in the network, and tokenized as a crypto-collectible digital item that you can own and trade. The SuperRare team verifies the identity of each artist before they have access to create on the marketplace, which means that each user on the site is eager to protect the prestige and cachet inherent in their membership. In other words, a system of community

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[390] Press release on the official web site Open Sea, https://opensea.io/assets/0x495f947276749ce646f68ac8c248420045cb7b5e/83923583752754956567057499513172901222725346731305849106491297916127289540609

[391] Ibid. Beyond the internal implications, this incident sparked a series of public discussions about the legal grey zone surrounding the crypto industry, and NFTs in particular. MacKenzie Sigalos, "There Was Insider Trading on NFT Platform OpenSea, The $1.5 Billion Start-Up Admits," *CNBC*, September 15, 2021, https://www.cnbc.com/2021/09/15/opensea-insider-trading-rumors-are-true.html.

[392] Ethan van Ballegooyen, "Verification on Rarible, Demystified," medium.com, April 12, 2021, https://rarible.medium.com/verification-on-rarible-demystified-4d2ce51e92ae; James J. Gatto, "NFT Licence Breakdown: Exploring Different Marketplaces and Associated License Issues," *The National Law Review*, vol. XI, no. 264, September 21, 2021, https://www.natlawreview.com/article/nft-license-breakdown-exploring-different-marketplaces-and-associated-license-issues.

[393] James J. Gatto, "NFT Licence Breakdown."

moderation has developed, where users themselves will report counterfeits and fakes.[394]

Two other NFT marketplaces should be mentioned in this list: Verisart and KnownOrigin. Verisart was founded in 2015, in the early days of the crypto art movement, with KnowOrigin following several years later in 2018. Unlike OpenSea, Rarible and SuperRare, these two companies allow users to certify and verify artworks and collectibles using the bitcoin blockchain.[395]

What else matters when we speak of NFTs is that they are built on different chain decisions, such as Ethereum, Solana, Tezos, etc. The difference between them lies in the field of communities, since each cryptocurrency has its adepts. Besides, sometimes, when it is a balanced decision, platforms provide their users with some cross-chain solutions. So, Rarible has multi-chain support and host NFTs built on Ethereum, Flow, and Tezos,[396] while OpenSea offers cross-blockchain support across Ethereum, Polygon and Klatyn.[397] At the current moment, the market is overflown with blockchain decisions of different kinds, and it begins to be seen as a form of bad manners to introduce new ones. As I know, even Snark.art, a portal existing at the crossroads of traditional and crypto art communities, that did a lot for promotion of blockchain philosophy among

[394] SuperRare on Twitter, November 25, 2019, https://twitter.com/SuperRare/status/1199013272814411778?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1199013272814411778%7Ctwgr%5E%7Ctwcon%5Es1_&ref_url=https%3A%2F%2Fpublish.twitter.com%2F%3Fquery%3Dhttps3A2F2Ftwitter.com2FSuperRare2Fstatus2F1199013272814411778widget%3DTweet. *See* also "Verisart and SuperRare Bridge Contemporary Art World with NFTs' Accessibility and Authenticity in Watershed Auction Series," *ArtFix Daily Artwire*, March 1, 2021, https://www.artfixdaily.com/artwire/release/3942-verisart-and-superrare-bridge-contemporary-art-world-with-nfts'-a.

[395] Mike Butcher, "Art on Blockchain Pioneer Verisart Raises $2.5M for Art and Collectibles Certification," *TechCrunch+*, October 3, 2019, https://techcrunch.com/2019/10/03/art-on-blockchain-pioneer-verisart-raises-2-5m-for-art-and-collectibles-certification/; David moore (CEO of KnowOrigin), "Using Blockchain to Verify a Million Dollars Worth of Art," medium.com, October 20, 2019, https://medium.com/knownorigin/using-blockchain-to-verify-a-million-dollars-worth-of-art-853a66d135de.

[396] https://rarible.com/create/start

[397] https://support.opensea.io/hc/en-us/articles/4404027708051-Which-blockchains-does-OpenSea-support-.

traditional artists, during a long period of time were thinking about starting their own blockchain.

Another illustrative case is the option recently appeared on Adobe; they added to the desktop version of Photoshop Content Credentials feature that, among other upgrades, helps users establish the authenticity of their NFTs. “Once artists link their crypto wallets and social media accounts to Content Credentials, buyers can check that the wallet used to produce artwork is the same wallet that minted it.” The feature was enabled in partnership with a handful of NFT marketplaces to enable the feature, including KnownOrigin, OpenSea, Rarible and SuperRare. Doubtfully, Adobe wants to become a mainstay of the NFT world with this move, and at the same time such move of a big tech company adding such feature to the common service, allowing more and more people “stamping” their own projects, is a sign that the technology gets more and more place on the market—and it could be, it will replace other solutions previously used to authenticate digital works. If at the moment, the authentication could be done automatically, then with time this authentication could have legal force.

Alongside marketplaces, the crypto community has its own art fairs. A breakthrough came in the form of the Contemporary and Digital Art Fair, or CADAF,[398] held for the first time in 2019. CADAF brought together modern digital artists in a format separate from typical contemporary art fairs and other such events, logging three offline fairs in New York and Miami in 2019 and in Paris in 2021, as well as one virtual fair, conducted in the midst of the COVID-19 pandemic in 2020. The event was initially focused on video art, slow-motion animation, VR and AI, with NFTs only joining the program later. Still, the founder of CADAF attests that the adoption of NFTs added a great layer of popularity to the event.[399] In 2022, CADAF intends to expand its scope by

[398] https://cadaf.art.

[399] Anna Asaturova, "On Curating in the Digital Sphere: An Interview with CADAF Founder Elena Zaveleva," *1 Art Channel*, July 30, 2021, https://www.1artchannel.com/single-post/__319. *In Russian. See also* some recent articles about CADAF: Anna Brady, "New

creating a marketplace for “fine art” NFTs and digital art—implying the intent to rigorously curate the future platform. In all likelihood, the CADAF marketplace will differ from other NFT marketplaces in featuring so-called “tokenized works” of digital art created by prominent artists on its virtual shelves, not rough and unrefined pictures and generative NFTs[400] that are sold on OpenSea, Rarible and other popular NFT platforms.

Unlike such metaverse giants as Decentraland and Sandbox (the phenomenon of metaverse and its place within the modern art world will be analyzed in the chapter “Metaverse”), creating your own NFT gallery in OnCyber doesn't require payment. This initiative gives a collector an opportunity to showcase his assemblage to everyone while also successfully promoting his NFTs if he wants to sell some of them at a bargain price because each collectible is connected to the largest NFT marketplace OpenSea. Many prominent collectors have already used this platform and created their own galleries. For instance, it is a mysterious artist Vincent Van Dough. Also OnCyber lets crypto art lovers watch NFTs in a real gallery-like conditions with works hanging on the virtual walls and so on and annotations above each NFT.[401]

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Digital Art Fair in Paris Hopes to Attract Tech Tycoons," The Art Newspaper, February 25, 2020, https://www.theartnewspaper.com/2020/02/25/new-digital-art-fair-in-paris-hopes-to-attract-tech-tycoons; Aimee Dawson, "How a Crypto and Digital Art Fair is Using Instagram to Show—and Sell—Works," *The Art Newspaper*, June 21, 2021, https://www.theartnewspaper.com/2021/06/21/how-a-crypto-and-digital-art-fair-is-using-instagram-to-showand-sellworks.

[400] Generative NFTs are art generated by computer code. Reethu Ravi, "Generative Art NFTs: What On Earth Are They?", *NFT Evening*, June 27, 2022https://nftevening.com/what-is-generative-art-nft/.

[401] https://oncyber.io.

## *Crypto-art as a part of the traditional art world*

### *Museums and auction houses*

However, what about the fine art world? As it was mentioned in the beginning of this chapter, in November 2018, the British auction house Christie's hosted the inaugural Art+Tech Summit, and later the same year, the auction house, in partnership with Artory, launched the pilot project of a blockchain-based encryption and registration service for works of art. Later, in 2020 Christie's sold a digital "portrait" of Bitcoin creator Satoshi Nakamoto for a record $131,250.[402] The market saw its watershed moment in February–March 2021, when the fine art world began its "intervention" into the NFT sphere, as the Big Three auction houses' "embrace of NFT sales doubled as their most concerned move into selling directly to buyers on behalf of artists themselves."[403] First, Christie's sold Beeple's token-backed digital collage *Everydays*: *The First 5,000 Days* (2021) for an explosive $69.3 million in March. In April, Sotheby's (in partnership with Nifty Gateway) made its foray into the crypto space by selling $17 million of NFT-certified works straight from the digital studio of pseudonymous sensation Pak, followed by a series of other Sotheby's sales. Meanwhile, Phillips consigned a programmatic NFT (one coded to behave in a dynamic way, instead of simply tracking ownership on a blockchain) from Canadian artist Mad Dog Jones. Bidding reached $4.1 million, "thus making Jones the priciest living Canadian

[402] Will Gottsegen, "Christie's Auctions Off Its First-Ever NFT-Linked Artwork For Record $131,250," *Decrypt*, October 8, 2020, https://decrypt.co/44239/christies-auctions-off-its-first-ever-nft-for-record-131250.

[403] Tim Schneider, "Why NFTs are Just the Latest Example of How Auction Houses Are Blurring the Line between the Primary and Secondary Markets," *Artnet*, November 17, 2021, https://news.artnet.com/news-pro/why-nfts-are-the-latest-example-of-how-auction-houses-are-blurring-the-line-between-primary-and-secondary-markets-2035789.

artist at auction in the process."[404] Rather than as the mainstream adoption of yet another new art form, journalist Tim Schneider argues that the phenomenon can be seen more globally as "primary and secondary art markets <...> collapsing into one another by fits and starts for roughly three decades."[405]

Another major crypto art auction at Christie's took place at the end of June 2022. The 27-lot "Cartography of the Mind" sale brought the auction house $1.6 million[406]—not as impressive as some sales in 2021, but still far in excess of the low expectations in light of the complicated and controversial situation in the cryptosphere at the time. Some highlights were blockchain-based artworks like Beeple's "Pilgrimage" and "VII. Wormfood," a piece by New York-based illustrator Sam Spratt. In the first half of this year, Christie's has only sold $4.6 million in NFTs, compared to a grand total of $150 million for the entirety of 2021.[407]

In February 2021, Christie's announced plans to put a fully digital artwork backed by a NFT up for auction: the NFT lot at a major auction house. This announcement began a series of tectonic shifts in the contemporary art world. The traditional art market players began to reexamine their marketing strategies, while the crypto community saw an opportunity for digital art to transition into the mainstream and fine art realms. This moment was followed by a series of auctions for ten artists including the Russian collective AES+F, French-Algerian artist Neïl Beloufa (b. 1985), American artists Shepard Fairey (b. 1970) and Michael Joo (b. 1966). *Forbes* speculated that the event "stands to more thoroughly bridge fine art and NFTs."[408]

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[404] Schneider, "Why NFTs are Just the Latest Example".
[405] Ibid.
[406] https://onlineonly.christies.com/s/cartography-mind-curated-nft-sale-benefit-maps/overview/3266?sc_lang=en
[407] Kelly Crow, "NFT Artists Get First Major Test Since Crypto's Collapse," *Wall Street Journal,* June 28, 2022, https://www.wsj.com/articles/nft-artists-get-first-major-test-since-cryptos-collapse-11656453852
[408] Jesse Damiani, "SuperRare and Verisart Announce '10x10' NFT Auction Series Featuring Neïl Beloufa, Petra Cortright, Shepard Fairey, and More," *Forbes*, March 1, 2021,

Christie's representative being asked about the impetus behind their raid on NFTs accentuated the technological advances this technology gives: the ease with which it was now possible to manage digital as property when "the entire chain of purchases" could be seen within a few moments and the art historians won't need "a single blank."[409] However, the motivations behind the decisions of one of the two "camps" usually combine several shades, but they can be conditionally divided into three main ones: driven by money; driven by the desire to ride the wave; and driven by a desire for natural expansion. While the first two options are usually about the traditional world of fine art, the last is, in turn, about the crypto community and their culture.

Recently Picasso's heirs have announced they will be selling 1,010 digital art pieces of the artist's 1958 ceramic bowl that has reportedly never been put on public display before. Their motivations are, no doubt, the combination of pursuit for cash with or under cover of riding a wave of interest in NFTs.[410] Even the proclaimed Uffizi Gallery, which in May 2021, began to sell Renaissance masterpieces as NFTs was driven primarily by economic interests: thus they were trying to recoup pandemic losses and get an additional revenue, and they were even not constrained to presented it this way in the press.[411] However, in

https://www.forbes.com/sites/jessedamiani/2021/03/01/superrare-and-verisart-announce-10x10-nft-auction-series-featuring-nel-beloufa-petra-cortright-shepard-fairey-and-more/?sh=4c3a7b4b4ccd.

[409] Appendix, p. 203.

[410] Rachael Bunyan, "Picasso's Heirs Join NFT Craze and Launch Sale of More Than a Thousand Digital Images of Previously Unseen Ceramic Bowl," *Daily Mail Online*, January 26, 2022, https://www.dailymail.co.uk/news/article-10442983/Picasso-heirs-launch-digital-art-piece-ride-crypto-wave.html;

[411] While Italy's tourism industry collapsed, the museum forced to close in early March 2020 and lost nearly three-quarters of its visitors, was placed in "an unexpected position of economic precarity with the daunting task of recovering from an estimated 10 million euros in losses." Annie Hosch, Staff Writer, "The Uffizi Gallery Proves NFTs Are Profitable, But Will They Last?" *Washington Square News*, October 25, 2021, https://nyunews.com/arts/abroad/2021/10/25/uffizi-gallery-nfts/.

comparison with Beeple's works, Michelangelo's *Doni Tondo* (ca. 1505–1506) DAW produced by an Italian company Cinello, raised only $170,000.[412]

Later in August 2021, the St. Petersburg State Hermitage Museum and the NFT marketplace of the world's leading blockchain ecosystem Binance released tokenized masterpieces by Leonardo da Vinci, Vincent van Gogh, Claude Monet, and Giorgione from the museum's collection. The primary motivation behind this decision, as they say on the sidelines and in some sources, was the same—to get money for the museum's budget.[413] Two NFT copies were created for each painting: one of them is to be stored in the museum, and the second one to be auctioned on Binance. Museum director Mikhail Piotrovsky said, "NFT is a path that brings democracy, makes luxury more accessible, but at the same time exceptional, exclusive," and "new technologies, in particular blockchain, have opened a new chapter in the development of the art market, at the head of which is possession and the guarantee of this possession."[414] There are a couple of interesting moments to note about this sale. The works were sold not for a cryptocurrency pegged to the dollar (a so-called "stablecoin"); instead, the transaction went through a number of intermediary agencies in order to reach the Singapore-based Binance. A long chain deal was needed to remain within the framework of Russian law; for the same purposes served semi-cryptocurrency—

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[412] Tessa Solomon, "In an Effort to Recoup Losses, Uffizi Sells Renaissance Masterpieces as NFTs," *The Art Insider*, May 18, 2021, https://www.art-insider.com/uffizi-sells-artworks-as-nfts-to-recover-losses/2238; Annie Hosch, Staff Writer, "The Uffizi Gallery Proves NFTs Are Profitable, But Will They Last?" *Washington Square News*, October 25, 2021, https://nyunews.com/arts/abroad/2021/10/25/uffizi-gallery-nfts/.

[413] Sophia Kishkovsky, "Hermitage Museum Mints Leonardo, Monet, Van Gogh NFTs to Raise Funds," *The Art Newspaper,* July 27, 2021, https://www.theartnewspaper.com/2021/07/27/hermitage-museum-mints-leonardo-monet-van-gogh-nfts-to-raise-funds.

[414] "Tokenized Art from The State Hermitage Museum, Including Leonardo da Vinci, Will Be Featured on the Binance NFT Marketplace," The Hermitage News, July 26, 2021, https://www.hermitagemuseum.org/wps/portal/hermitage/news/news-item/news/2021/news_167_21/?lng=en; Helen Partz, "Russian State Hermitage Raises $440K via Binance NFT Auction," *Cointelegraph*, September 7, 2021, https://cointelegraph.com/news/russian-state-hermitage-raises-440k-via-binance-nft-auction.

however, strictly speaking with such transactions the Hermitage has entered the "gray" zone of legislation, as experts say.[415] Secondly, as in the case of Uffizi, the auction brought relatively little money. The auction's highest bid went to the digital representation of Da Vinci's *Madonna and Child* (ca. 1490) with the winning bidder paying around $150,000.[416] Finally, the Hermitage wanted to avoid the problems the Uffizi faced having minted only one copy of the works from their collection; having sold the single-edition of the *Doni Tondo*, given the fact that such works are in public domain, the gallery "is likely not legally signing away any digital rights," they don't take into account that "NFT format for use in the metaverse is quickly becoming mainstream," as wrote Jason Bailey, an early NFT collector and digital art advocate.[417] That's why to avoid such possible missings the Russian museum minted two copies of NFT for each painting, and one of them is to be stored in the museum.

The involvement of the Hermitage in the world of blockchain and NFTs did not end there. The same year, in November 2021, the museum launched NFT art exhibition "Ethereal Aether"[418] For this first NFT exhibition within one of the most important art museums in the world, they invited artists to commission their works for display. This was done, in the words of the same Jason Bailey, for "a win/win in that the partnership would elevate the contemporary artist by

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[415] Andrey Zakharov, Anna Pushkarskaya, "Van Gogh and the Cryptopunks: How Does the Hermitage Sell NFT Paintings When Cryptocurrency Deals Are Banned?," *BBC Russian Service*, November 19, 2021, https://www.bbc.com/russian/features-59322601.
[416] Partz, "Russian State Hermitage Raises $440K."
[417] Jason Bailey, "Why Museums Should Be Thinking Longer Term About NFTs," *Artnome*, July 28, 2021, https://www.artnome.com/news/2021/7/28/why-museums-should-be-thinking-longer-term-about-nfts.
[418] Ethereal Aether, The Hermitage (official website of the exhibition), https://celestialhermitage.ru/en/; Sophia Kishkovsky, "'We Have No Doubt NFTs Are Art': After Selling Tokenised Leonardo, Hermitage Plans Exhibition of Born-Digital Works," *The Art Newspaper,* September 13, 2021, https://www.theartnewspaper.com/2021/09/13/we-have-no-doubt-nfts-are-art-after-selling-tokenised-leonardo-hermitage-plans-exhibition-of-born-digital-works; Helen Partz, "'Ethereal Aether': World's Largest Museum Launches NFT Art Exhibition," *Cointelegraph*, November 11, 2021, https://cointelegraph.com/news/invisible-aether-world-s-largest-museum-launches-nft-art-exhibition.

associating them with the prestigious museum while allowing the museum to avoid digitally deaccessioning important artworks from their collection."[419] Thus, the Hermitage starred NFT platforms and major industry players like Snark.art, Masters digital, The Art Exchange, Rarible, Superrare, KnownOrigin, ArtBlocks, Alterhen.art, and OpenSea.[420] Official website of the Hermitage exhibition accentuates that in the twenty-first century collecting and owning art is moving from "dusty rooms" to the format where the physical object does not have meaning any more.[421] At the same time, this particular project didn't include the sale of works. As the Hermitage's director of contemporary art, Dimitri Ozerkov, told *Cointelegraph*: "We avoid all topics related to the price of these pieces in order to focus on showing what digital art really is because the cost of art is secondary to its value." The official position—in this case this term seems the most suitable—was that all the artworks were to be returned to their original owners after the exhibition, and any "further events are outside the remit of the museum," Ozerkov said. At one of the press conferences, he emphasised that Hermitage had "no financial interest" in conducting the free exhibition, noting that the museum is striving to find out the real value of NFTs.[422] Most likely, this way the museum has staked out a place of pioneers in the field of NFT and managed to do without looking for winding paths in the crude Russian legislation in the field of blockchain.

The British Museum entered this NFTs-race later, in September 2021, selling more than 200 digital Hokusai postcards in a partnership with a French platform LaCollection—some were sold at fixed prices, while others at auction. The event coincided with the exhibition opening of Hokusai, "The Great Picture Book of Everything at the British Museum," which displayed 103 drawings by

[419] Cit. from Bailey, "Why Museums Should Be Thinking Longer Term About NFTs." Partz, "'Ethereal Aether': World's Largest Museum Launches NFT Art Exhibition."
[420] Partz, "'Ethereal Aether'."
[421] Ethereal Aether, https://celestialhermitage.ru/en/.
[422] Partz, "'Ethereal Aether'."

Hokusai never published before.[423] Several months later, in January 2022, the British Museum, after the Hokusai postcards, sold twenty paintings by English Romantic master Joseph Mallord William Turner's paintings, drawn from its collection, as NFTs—again in a partnership with LaCollection.[424] The Parisian Louvre, according to information as of November, said it has still not decided on the role of NFTs in its collections.[425]

An interesting step by a big art institution is the acquisition of the NFT "CryptoPunk 5293" by Institute for Contemporary Art Miami in July 2021 with the official representative of the museum saying that NFT works are "truly representative of the cultural zeitgeist and will have historic significance for generations to come."[426] However, for six months, the work had been stuck in escrow—the museum was forced to wait for professional appraisers to settle on the work's dollar amount.[427]

The expansion Sotheby's takes on the territory of NFT could be complemented by such things as launched in October 2021 marketplace for

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[423] "Hokusai: The Great Picture Book of Everything" (exhibition), September 30, 2021–January 30, 2022, The British Museum, https://www.britishmuseum.org/exhibitions/hokusai-great-picture-book-everything; "British Museum Enters World of NFTs with Digital Hokusai Postcards," The Guardian, September 24, 2021, https://www.theguardian.com/technology/2021/sep/24/british-museum-nfts-digital-hokusai-postcards-lacollection.

[424] Gareth Harris, "British Museum Banks on Turner NFTs after Hokusai Initiative," *The Art Newspaper,* https://www.theartnewspaper.com/2022/01/11/british-museum-banks-on-turner-nfts-after-hokusai-initiative.

[425] Raffaele Redi, "Paris Louvre Is Exploring the Introduction of Art NFTs," *Currency.com*, November 24, 2021, https://currency.com/paris-louvre-is-exploring-the-introduction-of-art-nfts.

[426] "Institute of Contemporary Art, Miami Acquires CryptoPunks NFT Through Major Gift from Trustee Eduardo Burillo: Acquisition Marks the First NFT to Join a Major Art Museum Collection," Institute of Contemporary Art, Miami (official press release), https://newsroom.resnicow.com/download/1051074/icamiamicryptopunksacquitionpressrelease.pdf.

[427] Kevin T. Dugan, "How Museums Are Trying to Figure Out What NFT Art Is Worth Determining Value in the Age of Bored Apes Is a Work in Progress," *New York Magazine*, January 23, 2022, https://nymag.com/intelligencer/2022/01/how-museums-are-trying-to-figure-out-what-nft-art-is-worth.html.

NFTs—Sotheby's metaverse;[428] investing in an NFT studio and platform Mojito that designs, powers, and operates NFT marketplaces—like the aforementioned Sotheby's metaverse—for companies to participate in the booming market on their own terms,[429] and hosting an NFT exhibition in Saudi Arabia.[430] Nothing to say about them holding a series of NFT auctions in addition to the mentioned a couple pages above. Christie's regularly hosts its annual Art+Tech Summit, demystifying and promoting NFT field—and, of course, keeps on with NFT auctions, for some of them collaborating with major NFT players such as the leading marketplace OpenSea.[431] Moreover, the renowned art fairs like Art Basel begin to pay attention to this new medium. For now, this is still an outside movement along with the respected blue-chip art, but nonetheless. In December 2021, on the second site of Art Basel Miami, across the water in Downtown Miami or Wynwood, were organized multiple events and exhibitions on NFT, most of them in collaboration with blockchain platform Tezos. (While the more traditional art events were taking place on the main site of Miami Beach.)[432]

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[428] Metaverse, Sotheby's (official website), https://metaverse.sothebys.com/hackatao-queens-and-kings. Eileen Kinsella, "Sotheby's Launches Metaverse, a Dedicated Digital Art Platform, With a Little Help From Pak, Paris Hilton, and Time Magazine," *Artnet*, October 15, 2021, https://news.artnet.com/market/sothebys-wades-deeper-digital-art-game-new-custom-nft-marketplace-called-metaverse-2021205.

[429] Isabel Contreras, "Sotheby's Makes First Crypto Investment, Backing NFT Startup Using Ethereum Blockchain," *Forbes*, October 21, 2021, https://www.forbes.com/sites/isabelcontreras/2021/10/21/sothebys-makes-first-crypto-investment-backing-nft-startup-using-ethereum-blockchain/?sh=688b0a533d82.

[430] Rebecca Anne Proctor, "Sotheby's Hosts First NFT Exhibition in Saudi Arabia," *Arab News*, February 20, 2022, https://www.arabnews.com/node/2028356/lifestyle.

[431] Art+Tech Summit: NFTs and Beyond, New York, July 15, 2021, https://www.christies.com/exhibitions/art-tech-summit-nfts-and-beyond; Alexandra Bruell, "How Christie's Is Pitching Its Expansion From Picassos to NFTs," *The Wall Street Journal*, November 23, 2021, https://www.wsj.com/articles/how-christies-is-pitching-its-expansion-from-picassos-to-nfts-11637700438; Anna Chan, "Christie's Collaborates With OpenSea for Its First On-Chain NFT Auction: Exclusive," *NFT Now*, November 23, 2021, https://nftnow.com/news/christies-opensea-collaboration-auction-exclusive.

[432] Mint Your Own NFT at Art Basel Miami Beach, Art Basel (official website), https://artbasel.com/stories/mint-your-own-nft-at-art-basel-miami-beach; Andrew R. Chow and Raisa Bruner, "Behind the Scenes at Art Basel Miami: The Biggest IRL Metaverse Party Yet," *Time*, December 9, 2021, https://time.com/6126466/art-basel-miami-metaverse-nfts/.

Furthermore, despite the so-called "crypto winter" that began in early 2022 (an expression that refers to a poorly performing crypto market[433]), the main stage of the fair, Swiss Basel (June 2022) saw a wealth of blockchain-based innovations. Several prominent artists showed interest in NFTs: Jeff Koons and Pace Gallery sold several versions of his new project, *Moon Phases*, at $2 million each,[434] while Marina Abramović announced her first upcoming NFT drop in collaboration with The Cultural Institute of Radical Contemporary Art (CIRCA) and the Tezos blockchain, presenting the artist's legendary performance "The Hero" (2001) as a video to first be shown on outdoor screens around the world and subsequently sold[435].

The Seattle NFT Museum,[436] opened in January 2022, could be considered the real collision of the traditional art scene and NFT community—though it must be noted founders have little experience in traditional art, coming from a technology background. Opened in a 3000-square-foot area, the first museum dedicated to blockchain art intended to be "a hub for blockchain innovation and a space to serve the NFT community," which nowadays turned into a complex ecosystem and newcomers need education on how to navigate in this ecosystem filled with different chains and technologies.[437]

It's worth mentioning some of the other significant cultural institutions that joined the NFT world in 2022 so far. Vienna's Leopold Museum minted 24 works

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[433] Eric Rosenberg, Crypto Winter, *Investopedia*, August 31, 2022, https://www.investopedia.com/crypto-winter-5496605.
[434] Brian P. Kelly, "What Sold at Art Basel in Basel 2022," *Artsy*, June 21, 2022, https://www.artsy.net/article/artsy-editorial-sold-art-basel-basel-2022
[435] Reena Devi, "Marina Abramovic on the Eve of Her First NFT: Web3 Is 'Undoubtedly the Future', June 13, 2022, https://www.artnews.com/art-news/news/marina-abramovic-nft-the-hero-basel-interview1234631675-1234631675/
[436] Seattle NFT Museum (official website), https://www.seattlenftmuseum.com.
[437] Tom Seymour, "NFTs IRL: Seattle to Be Home to First Museum Dedicated to Blockchain Art," *The Art Newspaper*, January 13, 2022, https://www.theartnewspaper.com/2022/01/13/nft-museum-opening-seattle-blockchain-art; Rain Embuscado, "The Seattle NFT Museum Wants to Mint a New Art World," *The Art Newspaper*, January 26, 2022, https://www.theartnewspaper.com/2022/01/26/seattle-nft-museum-new-art-world-review.

by Egon Schiele, including a unique painting from the artist's early oeuvre that was discovered recently and presented in an immersive exhibition during Frieze Week in New York.[438] The Museum of Fine Arts in Boston announced a collection of digital copies of some pastels by Cloude Monet, Edgar Degas and Jean-François Millet that will be auctioned in order to raise money for the restoration of two paintings in their collection.[439] The historic Ambrosiana Library in Milan transformed several original drawings from its huge collection, including one from Leonardo Da Vinci's Codex Atlanticus and some of the great master's followers like Francesco Melzi, into PFPs. The collection was named "The Visi."[440] Finally, Pace Gallery continues to dive deeper into Web3: this time, the gallery partnered with Art Blocks, one of the most successful NFT platforms with a focus on generative collectibles.[441]

### *Significant NFT projects: Beeple, CryptoPunks, Bored Apes Yacht Club and others*

As it was mentioned, in spring 2021, the digital art world saw a turning point: Christie's sold Beeple's *Everydays: The First 5000 Days* for a record $69.3 million—the work consisting of 5,000 images combined into a 10MB file. It was purchased by a Singaporean crypto investor Vignesh Sundaresan, who works in

[438] https://www.leopoldmuseum.org/en/press/news/1249/TIMELESS-REFLECTIONS-THE-ORIGINAL-EGON-SCHIELE-NFT-COLLECTION

[439] Dorian Batycka, "The Museum of Fine Arts, Boston Is Selling NFTs of Artworks in Its Collection to Fund the Conservation of Degas Paintings," *Artnet*, June 23, 2022, https://news.artnet.com/art-world/mfa-boston-nfts-degas-2134839

[440] https://thevisi.xyz/

[441] "Art Blocks and Pace Verso Announce a New Partnership for Digital Art," *Pace Gallery Journal*, June 7, 2022, https://www.pacegallery.com/journal/art-blocks-and-pace-verso-announce-new-partnership-digital-art/

the field of virtual world creation.[442] After this sale, NFTs attracted the attention of major players in the fine art world. Critics began to assess the advantages of this new format; artists began making new plans for joining the wave of popularity and making it big; and major auction houses like Sotheby's, Christie's and Phillips began selling works for cryptocurrency and represent digital artists with capsules, collectible objects and publications. Summer 2021 saw the most significant NFT boom yet: on the Clubhouse social network, there were daily arguments between curators and artists about the future of digital art, the media were releasing articles about possible future of NFT art one after another.[443]

The market cap of nonfungible tokens, or NFTs, shows rapid development, growing nearly tenfold between 2018 and 2020, and they traversed the path from niche forums to the oldest auction houses at record speed. Numerous artworks and collectibles have garnered six-digit price tags, and these figures are only growing larger. Later on, in May 2021, this globally recognized auction house put nine rare CryptoPunks NTFs up for auction. The quirky art project by two developers (not designers or artists) called CryptoPunks "posed a serious and provocative question: Could a few lines of code translate to a feeling of meaningful ownership?"[444] Not even a digital craft, but more a digitally rendered idea. Nowadays, this project is regarded as the beginning of the CryptoArt movement. The CryptoPunks are a collection of 10,000 24x24, 8-bit-style pixel art images of misfits and eccentrics, each with their own unique combination of distinctive features. In 2017, the founders of New York-based software company Larva Labs, created a software program that would generate thousands of

[442] Joanna Ossinger, "He Paid $69.3 Million for an NFT So You Can Download It for Free," *Bloomberg*, November 30, 2021, https://www.bloomberg.com/news/articles/2021-11-30/metakovan-would-be-happy-if-you-download-his-69-3-million-nft.
[443] Thompson Clive, The Untold Story of the NFT Boom, New York TImes, https://www.nytimes.com/2021/05/12/magazine/nft-art-crypto.html.
[444] CryptoPunks on lavralab.com, https://www.larvalabs.com/cryptopunks; "10 Things to Know about CryptoPunks, the Original NFTs," christies.com, April 8, 2021, https://www.christies.com/features/10-things-to-know-about-cryptopunks-11569-1.aspx.

different, strange-looking characters, inspired by the London punk movement of the 1970s and the dystopian grit of *Blade Runner* or William Gibson's Neuromancer's (1984) cyberpunk. The Punks were initially offered to the community for free and the first time there was very little interest—but before too long, for thousand dollars until this LavraLab project wasn't "accommodated" by Christie's.[445] The phenomenon of their popularity is perfectly explained by Russian art historian and art adviser Tatiana Stiskina: "CryptoPunks is a deep symbol not only of cryptoart, but of the tech industry, as they are generated using an algorithm. It is the algorithms that are worshipped by the people who gave us everything related to hi-tech and decentralised finance."[446]

After a year and a half, some of these Ethereum-tokens raised 9-digit sums. Though the journalists avoid speaking of that as of selling, putting the word "sold" in quotation marks. One of such transactions was seen by journalists as a stunt; the owner put this CryptoPunk "back on the market the following day at nearly double the price."[447] CryptoPunks both because of their nonfungibility and uniqueness are cast as status symbols (together with Bored Apes—another digital tokens, are used by some as a way to signal wealth on social media)[448], but no less important they marked an investment boom in the NFTs. That could be a bubble, and probably will.

No matter how low the price on these assets could fall down, as rightly notes Stiskina in an interview, "[they] are truly significant and will always be mentioned in stories about the rise of NFTs and digital art."[449] However, prior to this, the human propensity to appeal to social cues and mark oneself as belonging

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[445] Ibid.
[446] In a personal conversation.
[447] Jonathon Keats, "As Sotheby's Prepares To Auction 104 CryptoPunks For $30 Million, It's Time To Ask Whether NFTs Are Morally Bankrupt," *Forbes*, February 11, 2022, https://www.forbes.com/sites/jonathonkeats/2022/02/11/as-sothebys-prepares-to-auction-104-cryptopunks-for-30-million-its-time-to-ask-whether-nfts-are-morally-bankrupt/?sh=5353ded71941.
[448] Ibid.
[449] Appendix on p. 233.

to an elite club of collectors caused an unprecedented rise in the popularity of a completely different digital asset. It all started with a game. In 2017, CryptoKitties, a blockchain game on Ethereum that allowed players only to purchase, collect, breed and sell virtual cats without any specific goal, became virtually popular, so that it congested the Ethereum network. Kitties, as writes a *Guardian* journalist, is "a game, or art piece, that is somewhere between a real-world game of Pokémon, an automated replacement for the authenticity department at Sotheby's and digital trading cards."[450]

Another highly popular NFT-collectibles, *Bored Ape Yacht Club* is a project launched in late April by a team of four pseudonymous developers, when in 12 hours they sold all 10,000 out at a price of 0.08 ether (around $190). Recently television host Jimmy Fallon purchased one of them for over $200,000. The images of cartoon apes, each with different "properties"—varying fur types, facial expressions, clothing, accessories and more exist in a special ecosystem that includes the traditional apes, items called "mutant" apes and the apes' pets, and with prices dictated by the rarity of "property." The success of this project could be seen as a sum up of three things: influencer involvement, community strength and utilities for members.[451] However, the main reason should be their ability "[to] serve as a digital identity," as it was called by a *Rolling Stones* author.[452]

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[450] "CryptoKitties Craze Slows down Transactions on Ethereum," *BBC News*, December 5, 2017, https://www.bbc.com/news/technology-42237162. Cit. from Alex Hern, "Art, Amulets and Cryptokitties: The New Frontier of Cryptocurrencies," *The Guardian*, 26 February 2021, https://www.theguardian.com/technology/2021/feb/26/art-amulets-cryptokitties-new-frontier-cryptocurrency-non-fungible-tokens-nft.

[451] Daniel Van Boom, "Bored Ape Yacht Club NFTs: Everything You Need to Know," *Cnet*, February 8, 2022, https://www.cnet.com/how-to/bored-ape-yacht-club-nfts-everything-you-need-to-know/.

[452] Samantha Hissong, "How Four NFT Novices Created a Billion-Dollar Ecosystem of Cartoon Apes," *Rolling Stones*, November 1, 2021, https://www.rollingstone.com/culture/culture-news/bayc-bored-ape-yacht-club-nft-interview-1250461/.

A bit different in this range looks at one of the oldest examples of crypto art, the Scarab project. The Scarab experiment is an association of artists whose focus is on combining different art technologies. Created in 2014, the project seems frozen today.[453] Scarab worked as a multi-user avatar that used image processing enabled by artificial intelligence in order to create a single work of art out of thousands of submitted images. To become a participant, one needed to register and submit a piece of art, after which they received Scarab tokens in return. The token granted membership in the Scarab community and allowed users to vote for objects that will be part of the final work.[454] The deviant and niche product Scarab nethertheless is based on the same "philosophy" of gamification as CryptoKitties, CryptoPunks and Bored Apes Yacht Club.

Apparently, the gamification of art, or more precisely would be say—the penetration into digital art of simple game elements that carry a minimum of intrinsic value, but rather mark belonging to a community, itself lays down a subsequent decline in the price of such assets. However, until that boom didn't go down, this wave contributed to fundamental changes concerning the medium. Of course, one could use the copy-pasted image of an ape as an avatar, and there are two options: the community would notice it is false or the impression would, the one would like to make, will work only for persons unknowing the person does not own this image. One of my interviewers called it "culture of consumption": NFTs introduce a fashion for consumption of authentic information products.

***Metaverse: the new type of exhibition space***

*The metaverse* is yet another neologism that has penetrated the art world and gained a foothold in the last few years. Along with global companies like

[453] https://www.thescarabexperiment.org/.
[454] "The Scarab Experiment Creates a Cryptocurrency as Art," *Juxtapoz*, February 26, 2018, https://www.juxtapoz.com/news/technology/the-scarab-experiment-creates-a-cryptocurrency-as-art/.

Sotheby's auction house, Samsung, Nike and Balenciaga, creative and cultural institutions have grown to see the potential in the virtual world and the metaverse to build almost-limitless exhibition space, deepen the ties between art and technology, and stay abreast of recent trends.

As with any radical innovation in its early days, both researchers and creators have yet to settle on a single definition of the metaverse. Andrea Moneta, one of the first specialists to analyse the phenomenon of the metaverse, defined it as "a future iteration of the Internet made up of persistent, shared, 3D virtual spaces linked into a perceived virtual universe."[455] Two years later, venture capitalist Matthew Ball wrote in his book dedicated to the subject, "The metaverse is a 3D elevation of the online world, which spans Augmented Reality—unseen virtual simulations in the world around us—as well as much of consumer leisure and socialising."[456] Ball, the former head of strategy at Amazon Studios, emphasised the application of other modern technologies in the metaverse and, notably, stressed the human factor as well. A more concrete explanation was coined by independent expert Cathy Hackl, also known as "Godmother of the Metaverse": "The metaverse is a convergence of our physical and digital selves. Through Web 3.0 technologies such as VR, AR, AI, cloud, blockchain, crypto, 5G networks, and edge computing, the metaverse allows our respective digital identities to catch up so we're consuming content and creating revenue streams in a wholly interactive manner. There's only one metaverse and it's not here yet in its greater form. It's being built and this decade is critical."[457]

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[455] Andrea Moneta, an academic practioner from the Nottingham Trent University is the author of a discursive essay "Architecture, Heritage, and the Metaverse: New Approaches and Methods for the Digital Built Environment," *Traditional Dwellings and Settlements Review*, 32, no. 1 (2020): 37–49.

[456] Alex Hern. "Interview: Exit the Internet, Enter the Metaverse—Your Online Future is In 3D," *The Guardian*, July 10, 2022, https://www.theguardian.com/technology/2022/jul/10/exit-the-internet-enter-the-metaverse-your-online-future-is-in-3d

[457] Cathy Hackl, Dirk Lueth, and Tommaso Di Bartolo, "Navigating the Metaverse: A Guide to Limitless Possibilities in a Web 3.0 World" (Hoboken, New Jersey: Wiley, 2022).

The word "metaverse" first appeared thirty years ago in *Snow Crash*[458], a science-fiction novel by American author Neal Stephenson. In this book, the Metaverse consists of a large-scale urban virtual space—a metaphor for the real world—that the characters perceive as a way to escape their dystopian reality and interact as customised avatars. The idea didn't gain broader cultural traction; still, it earned a cult following in tech circles. Stephenson's impact was acknowledged by many Silicon Valley giants, such as Google co-founder Sergey Brin,[459] and saw its first mass-market embodiment in *Second Life* (2003), a 3D online world that stressed social interactions and personal expression (more so than in the massively multiplayer online role-playing games of the time). The platform continued developing *Snow Crash*'s vision of an individual's virtual representation, bringing alternative and actual worlds into a fascinating dialogue.

*Second Life* anticipated today's experiments by Meta that are defining the present-day understanding of the metaverse and contributing to its popularisation. Meta, a United States technology corporation that owns major social networks and messengers like Facebook, Instagram and WhatsApp, rebranded in October 2021, dropping its original name of Facebook to emphasise the company's new focus on infrastructure for the virtual world. Since 2013, the technology conglomerate has invested in artificial intelligence, augmented reality and virtual reality. One of the first products developed was "Horizon Worlds," a project positioned as "a brand new social VR world"[460] and "an ever-expanding universe of virtual experiences designed and built by the entire community."[461] Despite

[458] Neal Stephenson, *Snow Crash* (New York: Bantam Books, 1992).
[459] Richard Feloni, "Google Cofounder Sergey Brin Says These 2 Books Changed His Life," *Independent*, December 31, 2017, https://www.independent.co.uk/news/google-cofounder-sergey-brin-2-books-changed-life-advise-helpful-reading-a7686246.html.
[460] "Oculus Connect 6: Introducing Hand Tracking on Oculus Quest, Facebook Horizon, and More," *Oculus Blog*, September 25, 2019, https://www.oculus.com/blog/oculus-connect-6-introducing-hand-tracking-on-oculus-quest-facebook-horizon-and-more/.
[461] "Facebook Horizon Invite-Only Beta Is Ready For Virtual Explorers," Oculus Blog, August 27, 2020, https://www.oculus.com/blog/facebook-horizon-invite-only-beta-is-ready-for-virtual-explorers/.

discouraging statistics for the first quarter of 2022[462] and a $10.2 billion loss on AR and VR development in 2021,[463] Meta CEO Mark Zuckerberg remains enthusiastic about their metaverse: "We hope to basically get to around a billion people in the metaverse doing hundreds of dollars of commerce, each buying digital goods, digital content, different things to express themselves, so whether that's clothing for their avatar or different digital goods for their virtual home or things to decorate their virtual conference room, utilities to be able to be more productive in virtual and augmented reality and across the metaverse overall."[464]

According to a report by market research firm Newzoo, the number of companies working on metaverse projects topped 500 as of June 2022, compared to 200 just 11 months prior.[465] Microsoft, Google, and the new players, which specialize either in gaming or in 3D virtual world browser-based platforms Decentraland, Roblox, The Sandbox, Ready Player Me and RTFKT have joined Meta as leaders in the metaverse industry.[466]

Innovative art forms require innovative methods of exhibition. The dawn of the Information Age in the mid-twentieth century brought technologies to artists, leading to the revolutionary forms under the umbrella of new media art. Curators faced the challenge of exhibiting screen- or computer-based art in efficient and engaging ways—a demand made even more present by the rise of crypto art. NFTs can be demonstrated in both physical and virtual spaces, but only

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[462] "Meta Reports First Quarter 2022 Results," *PR Newswire*, April 27, 2022, https://www.prnewswire.com/news-releases/meta-reports-first-quarter-2022-results-301534680.html.

[463] Eli Tan, Nelson Wang. "Meta Reports Loss of $10.2B on Augmented/Virtual Reality Operations in 2021," *CoinDesk*, February 3, 2022, https://www.coindesk.com/business/2022/02/02/meta-reports-a-loss-of-102b-on-augmentedvirtual-reality-operations-in-2021/.

[464] Jordan Novet. "Mark Zuckerberg envisions a billion people in the metaverse spending hundreds of dollars each," *CNBC*, June 22, 2022, https://www.cnbc.com/2022/06/22/mark-zuckerberg-envisions-1-billion-people-in-the-metaverse.html.

[465] "The Metaverse, Blockchain Gaming, and NFTs: Navigating the Internet's Uncharted Waters | Newzoo Trend Report," *Newzoo*, June, 2022, https://newzoo.com/insights/trend-reports/newzoo-report-on-metaverse-blockchain-gaming-nft-2022/.

[466] Ibid.

the metaverse can unloc non-fungible tokens' potential to the fullest as well as save and even multiply their special aesthetic features.

"People want to be inspired in the metaverse, and only art can deliver that outcome,"[467] says Krista Kim, a celebrated digital artist and the founder of the Techism movement that reconciles technological innovation with the creation of art.[468] Her *Mars House* was one of the highlights at "Ethereal Aether," the first digital exhibition mounted by the State Hermitage Museum in Saint Petersburg. "A house of healing and meditation in the Metaverse,"[469] as Kim names it, combines architecture, interior design, 3D graphics and music. The artwork is filled with utopian calm and a meditative spirit, creating a virtual "healing space" for visitors.[470] In March 2021, *Mars House* was the first metaverse property to be sold as an NFT on SuperRare[471] and motivated new interest in the metaverse among the art world. In describing her vision going forward, Krista Kim said, "We believe in a future metaverse that is high-fidelity, artistically groundbreaking, humanist, and a new frontier of human civilization."[472]

Cultural institutions are actively adopting the metaverse as a medium for virtual museums and galleries. They value the innovative form of interaction between visitors and artworks, as well as its ability to deliver unique, personal experiences that draw in new audiences of younger digital natives and tech-focused connoisseurs. Aside from Takashi Murakami's exhibition in Gagosian Gallery and its metaverse twin and Sotheby's exhibition space "Natively

[467] Arianne Lapidus, "Life on a Gradient: Q&A with NFT artist Krista Kim," *SuperRare Magazine*, June 16, 2022, https://superrare.com/magazine/2022/06/16/life-on-a-gradient-qa-with-nft-artist-krista-kim/
[468] Krista Kim's website, https://www.kristakimstudio.com/techism-manifesto.
[469] Lapidus, "Life on a Gradient."
[470] Krista Kim, "In the Metaverse, Life Imitates Art," *The New York Times*, June 16, 2022, https://www.nytimes.com/2022/06/16/special-series/krista-kim-metaverse-nft-art-reality.html.
[471] https://superrare.com/artwork-v2/mars-house-21383.
[472] Lapidus, "Life on a Gradient."

Digital"[473], two other notable metaverse exhibitions were held by the Museum of Contemporary Digital Art and König Galer in Berlin.

With "The Artist Is Online. Digital Paintings and Sculptures in a Virtual World," König Galerie became one of the pioneers in applications of the metaverse to the culture industry.[474] The exhibition was organised in March 2021 in Decentraland, preempting the opening of the Hermitage's "Ethereal Aether" more than half a year later, even though it received significantly more media coverage and is widely considered to be the first-ever NFT exhibition. "The Artist Is Online" featured pictures, videos and GIFs minted as NFTs that were later sold at an OpenSea auction. The brutalist architecture of the former church St. Agnes in Berlin, the main location of König Galerie, was adapted and brought into the virtual world by digital artist Manuel Rossner, and today the work lives in the metaverse. Among the creators who exhibited their artworks during this exhibition were Jonas Lund, Anne Vieux, Mario Klingemann, Rossner himself and 18 other contemporary artists.

Just a few months after "The Artist Is Online," the German gallery launched its next virtual exhibition in July 2021 called "Loops and Other Circumstances," also held in Decentraland. This was a solo NFT exhibition for German artist collective Banz & Bowinkel, whose primary interests are computer-generated imagery, animation, augmented reality, virtual reality and installations. The artists and the gallery collaborated with NFT marketplace SuperRare. "I am interested online as well as offline, how art can become an experience, how artists use spaces in which visitors experience something unexpected,"[475] explains Johann König, gallery founder and mastermind behind all its work.

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[473] https://metaverse.sothebys.com/natively-digital.

[474] König Galerie was established in 2002 and named after its founder and art dealer Johann König (b.1981). The focus of the gallery is on interdisciplinary and conceptual works belonging to traditional as well as digital art and performance by emerging and prominent contemporary artists from around the world.

[475] "KÖNIG GALERIE on SuperRare and in Decentraland: Exhibitions with Banz and Bowinkel, Andy Kassier," *SuperRare Magazine*, July 14, 2021,

Another significant cultural institution building a presence in the metaverse is the Museum of Contemporary Digital Art (MOCDA). Its focus on the digital world is embedded in its very name, and MOCDA regularly holds virtual exhibitions of its collection. To serve its mission, the museum partners with many companies active in the metaverse: its exhibitions are often located in Decentraland (including "Do Not Touch,"[476] April-June 2022, a meditation on our emotional response to touch; "Memento Minti," January-March 2022, exploring "how marketing strategies have changed the way creatives promote and sell works online"[477]). There are some exceptions, such as "Abstract Art in the Age of New Media,"[478] a large group exhibition in February-May 2021, for which a special virtual space was created by Hobs3D studio; "System Shock—777 Exhibition,"[479] in collaboration with seven international creators and SuperRare; and "The Advocate,"[480] a socially oriented project by documentary photographer Jon Lowenstein organised in Cryptovoxels.

In 2022, MOCDA also organised their "Digital Summer Show,"[481] intended to help young talented digital artists develop their creative potential and explore virtual venues. The open call received 150 submissions, from which 30 artworks were selected by MOCDA curators. The initiative was supported by art schools and universities around the world, including Istituto Marangoni (Milan) the Tisch School of the Arts at New York University, the Parsons School of Design at The New School (Paris) and others. This exhibition, like several of the museum's previous ventures, was hosted in Decentraland.

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https://editorial.superrare.com/2021/07/14/konig-galerie-on-superrare-and-in-decentraland-exhibitions-with-banz-bowinkel-and-andy-kassier/.

[476] https://www.mocda.org/do-not-touch.

[477] https://www.mocda.org/memento-minti.

[478] https://www.mocda.org/abstract-art-new-media.

[479] https://www.mocda.org/system-shock-777-exhibition.

[480] https://www.mocda.org/theadvocate/exhibition.

[481] https://www.mocda.org/summer-show.

Other noteworthy cultural organisations that have made their metaverse debut are The Transfer Gallery (Brooklyn, NY); the UCCA Center for Contemporary Art (Beijing); the Francisco Carolinum Museum (Linz, Austria); and the virtual-only Epoch Gallery. Most significantly, the Vatican Museums, one of the world's most prominent offline cultural institutions, recently announced preparations for a metaverse exhibition launch.[482]

The metaverse has also gained great popularity among luxury fashion brands in recent years. However, some of them see the virtual world as more than an impressive e-commerce growth tool and are actively working to transform the art of fashion into high-tech fine art. For instance, in June 2022, Gucci partnered with NFT marketplace SuperRare to launch its first metaverse exhibition, titled "The Next 100 Years of Gucci." The brand's bespoke Vault Art Space, built specifically for this exhibition, featured NFTs based on digital works by 29 contemporary artists. The concept embraces the achievements of Gucci's past, its present vision and the forays into the future. These pieces of crypto art are destined for sale at auction. "For the house, this is the natural evolution of an approach we have always had under the creative direction of Alessandro Michele. We believe in the cross pollination of the arts to forge meaningful and valuable dialogues between Gucci and the communities we engage with. With this in mind we envisioned Vault, a meeting place above space and time, allowing multiple creative voices to join the conversation. Partnering with SuperRare to showcase and support the experimental work of this multifaceted roster of artists gave us the chance to be consistent with this, while exploring new methods to do so—methods that are themselves portals to the future,"[483] said Nicolas Oudinot,

[482] Demond Cureton. "Sensorium, Humanity 2.0 Launch Vatican City Art Metaverse," *XR Today*, May 3, 2022, https://www.xrtoday.com/mixed-reality/sensorium-humanity-2-0-launch-vatican-city-art-metaverse/

[483] Lisa Lockwood, "Gucci Launches Vault Art Space," *WWD*, June 23, 2022, https://wwd.com/fashion-news/designer-luxury/gucci-launches-vault-art-space-1235217666/.

Executive Vice President of New Businesses at Gucci and Chief Executive Officer of Vault Art Space.

Two more examples of work with the community and at the same time building a proprietary digital world came from the art world: Adidas' and Bored Ape Yacht Club's collaboration aimed to build brand loyalty through selling NFTs that provided access to physical streetwear[484] and Sotheby's proprietary marketplace for curated NFT art (or maybe in this case, digital crafts would be a more appropriate term)—so, the last introduced a marketplace with digital collectibles for the fan community of Liverpool Football Club.[485]

At the moment, the commercial brands are only exploring the options of the metaverse as a special virtual gallery that allows engaging their community and building brand loyalty via selling digital assets on blockchain—which potentially means the further evolution of the NFT market.[486]

However, we certainly understand that it can already be argued that the metaverse is beginning to play a significant role in modern life, and as regulation and the market develop in this area, such "digital" cultural events as Murakami and the Gagosian's gallery metaverse twin or the Hermitage exhibition will most likely become more familiar, and accordingly—the quality of the exhibits there and the provenance of these works will be of the best quality. To the extent that this is possible thanks to the modern technologies.

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[484] Value creation in the metaverse: The real business of the virtual world, McKinsey Report (June 2022), https://www.mckinsey.com/~/media/mckinsey/business%20functions/marketing%20and%20sales/our%20insights/value%20creation%20in%20the%20metaverse/Value-creation-in-the-metaverse.pdf, 39.

[485] "LFC and Sotheby's Launch LFC Heroes Club," Sotheby's, March 24, 2022, https://www.sothebys.com/en/press/lfc-and-sothebys-launch-lfc-heroes-club.

[486] Value creation in the metaverse: The real business of the virtual world, McKinsey Report (June 2022), https://www.mckinsey.com/~/media/mckinsey/business%20functions/marketing%20and%20sales/our%20insights/value%20creation%20in%20the%20metaverse/Value-creation-in-the-metaverse.pdf, 39.

### *How digital and other contemporary artists who became famous not through NFTs are reasoning their choice for NFTs*

Solomon Lopez, the Spanish media artist, who was among my interviewers, having been asked about the future paths for artists, said that contemporary artists are in touch with a very small part of the community, mainly focusing traditional art institutions (art museums and festivals), and besides, are badly "informed about what happened during the past twenty years in the sphere of technology."[487] Eve Sussman, the author of *89 Seconds in Alcázar*, in an interview explaining her leap in technology shared similar thoughts.[488] However, examples of artists turning to NFTs are multiplying, and predominantly they are first-tier artists who want to ride the trend. Damien Hirst whose name has become synonymous with contemporary art, famous for works that have been boundary redefining in nature, in March 2021 began testing the cryptoworld by accepting cryptocurrency (in the form of Ether or Bitcoin) as payment for a new edition of laminated Giclée prints, and later in summer presented a body of works called *The Currency*. That project consists of 10,000 NFTs corresponding to 10,000 unique works on paper created back in 2016. According to Hirst, *The Currency* is more than just buying an artwork. It is a project that "challenges the concept of value through money and art" by inviting people to participate in the process of buying, holding, and selling artworks, and forcing them to confront "their perception of value, and how it influences their decision." Thus, the work reflects on its medium and on economic relationships the buyer is participating in. Later on, Hirst also participated in designing the cover for Drake's album and recently in January announced one more NFT project, which is already available for sale—and again, in a playful manner he reflects on the nature of NFT. Buyers will be given the option to receive the print directly or delay receipt for up to three years by buying an *NFT*

[487] Appendix on p. 239.
[488] Eve Sussman "89 Seconds Atomized" Interview, Snark Art (YouTube channel), October 4, 2018, https://www.youtube.com/watch?v=uUzLLHUqQnE.

*Deed* that allows collectors to redeem their NFT for the physical artwork at a later date. As the artist explains, his interest in NFT rose up, when four years ago he came across CryptoKitties. "NFTs seemed like they were an answer to the problems I'd come up against when buying virtual goods. I'd had arguments and been playing hell with my kids for spending real money on Habbo Hotel and Clash of Clans [an online and a mobile game]. But I was getting nowhere."[489]

Another contemporary artist who took a leap in NFTs is Takashi Murakami. His debut was *Murakami.Flowers* (2021), an NFT collection consisting of his characteristic smiley face flowers, pixelated in the mould of CryptoPunks.[490] A year ago he released his second crypto art project in partnership with RTFKT, a studio creating unique pieces for Metaverse whose first claim to fame were digital wearables like sneakers.[491] "Clone X," a collection of almost 20,000 3D avatars, has reached 218K ETH in total volume traded on OpenSea by July 2022.[492] Following this overwhelming success, the Gagosian Gallery organised an exhibit both in New York and in their virtual space. The exhibition connected digital and analog art by translating the NFT

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[489] "Damien Hirst Turns Drake's 'Certified Lover Boy' Cover Art Into NFTs," *HypeArt*, November 26, 2021, https://hypebeast.com/2021/11/damien-hirst-drake-certified-lover-boy-cover-art-ethereum-nft; Sarah Meyohas, "Damien Hirst's 'The Currency' Is Just Like Money, but Is It Good Art?," CoinDesk, September 15, 2021, https://www.coindesk.com/tech/2021/09/15/damien-hirsts-the-currency-is-just-like-money-but-is-it-good-art/; Scott Reyburn, "Damien Hirst and the Art of the Deal Scott Reyburn," *The New York Times*, January 21, 2022, https://www.nytimes.com/2022/01/21/arts/design/damien-hirst-nft.html; Andrew Thurman, "British Artist Damien Hirst Uses NFTs to Blur the Boundaries between Art and Money," *Cointelegraph*, July 13, 2021, https://cointelegraph.com/magazine/2021/07/13/can-you-believe-in-me-can-you-believe-in-this-damien-hirst-blurs-the-boundary-between-art-and-money-with-groundbreaking-nft-experiment; Interview with Damien Hirst "'Currency' NFT Collection Drop," *The Loop News*, July 22, 2021, https://www.loop-news.com/p/interview-with-damien-hirst-currency?utm_source=url.

[490] "Takashi Murakami Has Released His First NFTs (But the Sale is Already Suspended)," *Art Rights*, April 13, 2021, https://www.artrights.me/en/takashi-murakami-released-his-first-nft/

[491] Cathy Hackl, "The Evolution Of A Metaverse Brand: RTFKT's CloneX Drops Today," *Forbes*, November 29, 2021, https://www.forbes.com/sites/cathyhackl/2021/11/29/the-evolution-of-a-metaverse-brand-rtkfts-clonex-drops-today/.

[492] https://opensea.io/collection/clonex.

"clones" into full-fledged physical sculptures, while the pink-and-white *Murakami.Flowers* were hung in the gallery space alongside with acrylic paintings based on traditional Asian motifs.[493] Murakami remarked, "By collecting NFTs, you start to unpack and understand the mystery of what the act of collecting art means. Even if it's just an image, the minute you become conscious of the fact that you purchased that image and share that fact with others, the concept of collecting is established in your brain. And in the dealings of crypto art, such exchanges of information happen the fastest; I believe that those who have become aware of the budding of that structure will never be able to go back."[494]

For some artists like for a pretty young Berlin-based artist Manuel Rossner (b.1989) NFTs became just a successful way to present his artworks to collectors. At the same time, not only Hirst, reflecting on money and art, and younger generations of artists turn to NFTs. The British-born American artist Penny Slinger (b.1947) who is undoubtedly one of the most radical artists of the twentieth and twenty-first centuries—throughout the 1960s and 1970s she created myriad collages, films and sculptures—dropped her first NFT, drawn from a foundational series of photo collages and poetry from her first book, *50% the Visible Woman* (1971). Her explanation of this turn sounds very artistic, in one interview she told: "Although I cannot claim to fully comprehend NFTs' full implications, I felt it was a field of endeavour I needed to participate in." However, apparently, as shows another her citation "Much as analog collage was still an 'outsider' art form when I adopted it as a medium of choice in 1960s, so the world of the NFT is especially relevant to me as an artist who has elected to use the tools of the digital age in my work as it lends weight and credibility to these creations. If the artistic crucible is a melting pot, NFTs can capture the

[493] https://gagosian.com/exhibitions/2022/takashi-murakami-an-arrow-through-history.
[494] Taylor Dafoe, 'I Was Reborn': Artist Takashi Murakami on How NFTs Helped Him See the Art Industry Anew," *Artnet*, May 16, 2022, https://news.artnet.com/market/takashi-murakami-nft-interview-2114309.

melting moment," shows that she fully comprehends NFTs as a new medium, and apparently, as the younger generation also wants to be presented on this new market.[495]

Of course, alongside with those who starts minting NFTs[496] for special purposes are many who just want to be on a safe side—and remain popular, or at least not to be too old-fashioned. This seems to be true, for example, for Jeff Koons (b.1955), who said that his foray into NFTs will not mark a major shift in the way he already creates art. However, later he, nevertheless, presented his first NFT project.[497]

Russian group AES+F talking about one of their NFT projects, referred to an extension of practice: "We have been bridging the space between digital and traditional media at museums, biennials, festivals, and even theatres for over 30 years. It will be very interesting to engage the digitally-native NFT community as an extension of our practice."[498]

A perfectly clear answer why he prefers NFT is given by Silicon Valley artist Leo Isikdogan. "I think NFTs are a perfect way to present, transfer, and keep track of art that is digital in its native form, and going fully digital opens up a lot of possibilities for the future of art," he said. "Minting my art as an NFT also saves me the time and resources of having to handle the logistics of storing, preserving, and transporting a work of art. This makes me and the audience more

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[495] "Why These 8 Artists Are Making NFTs," *Artsy*, January 27, 2022, https://www.artsy.net/article/artsy-editorial-8-artists-making-nfts.

[496] Minting an NFT means publishing a unique digital asset on a blockchain so that it can be traded.

[497] Kabir Jhala, "Jeff Koons reveals he is making NFTs, details plans for his Pace Gallery shows and remembers his hotel rendezvous with Salvador Dalí," September 9, 2021, https://www.theartnewspaper.com/2021/09/09/jeff-koons-reveals-he-is-making-nfts-details-plans-for-his-pace-gallery-shows-and-remembers-his-hotel-rendezvous-with-salvador-dali; Brian P. Kelly, "What Sold at Art Basel in Basel 2022," *Artsy*, June 21, 2022, https://www.artsy.net/article/artsy-editorial-sold-art-basel-basel-2022.

[498] Vinciane Jones (Verisart) "AES+F: Surreal Visions," *SuperRare*, March 22, 2021, https://editorial.superrare.com/2021/03/22/aesf-surreal-visions/.

free to enjoy the art as it was intended."[499] (Besides, for his NFT work the engineer designed a custom AI art model to reflect on the idea of convergent evolution.)

Another interesting explanation—an activist one—was given by Glenn Kaino (b.1972) for his rather ideologically charged work *Pass the Baton* (2021). Kaino celebrating a Black American athlete Tommie Smith's iconic raised-fist protest for human rights from the podium during the medal ceremony in the 1968 Olympic Games created digitally-rendered baton NFTs that should bring Tommie's salute and message of unity and perseverance to digital space. The project was prepared in partnership with twenty-four organisations fighting for human rights and as Kaino explained, these new tools were used "in ways that we have only dreamed of to create long-running, transparent support systems for all human rights. We hope this project inspires others to take these batons, run with them, and then pass them to the next generation of people fighting for equality."[500] Another idealistic reasoning sounds in press-release for his ethical exclamation—a work called *Western Flag* (2021). The project raises questions of handling with the environment and the history of petroleum usage as the main fuel. The NFT *Western Flag* is a unique sequence derived from Gerrard's solar simulation, *Western Flag* (Texas, 2017)—a video of a flagpole bearing a flag of perpetually-renewing pressurised black smoke, that in the form of digital clips and stills became an icon of climate change protest. As writes an author of the press-release-like article on the website of gallery presenting the artist: "Gerrard's project aims to create an entirely ethical and radically transparent NFT sale, which captures the philosophy of the Blockchain. This will be the first 'superneutral' NFT in the marketplace." 50% of ethereum proceeds from the *Western Flag (NFT)* sale were promised to be transferred to an emergency crypto fund

[499] "Why These 8 Artists Are Making NFTs"; Bio on his personal website https://www.isikdogan.com.
[500] "Glenn Kaino's Pass the Baton—A Revolutionary Digital Art Project and Blockchain Strategy," Pace Gallery's website, November 18, 2021, https://www.pacegallery.com/journal/announcing-glenn-kainos-pass-baton/.

dedicated to soil restoration and post petroleum agricultural practices in Ireland.[501]

The economic liberation among the reasons why he chose NFT names cites an illustrator, graphic designer, and creative director for feature films Ash Thorp (b.1983). He says: "[NFTs are] giving me complete ownership of my digital work for the first time. So it's incredibly liberating and empowering."[502] About "an opportunity to present his work with fidelity for the first time; remaining true to their native digital formats in circulation, and in exhibition," speaks also Greek-American artist Lucas Samaras (b.1936) whose career started in the early 1960s.[503] A close explanation, though accentuating a bit different nuance of this is given by London-based art group Troika: they chose to use the NFT to "redirect funds from the purely virtual world towards a very real, very actual issue."[504] The way these artists argument their position sounds similar to using "Artist's Reserved Rights Transfer and Sale Agreement" (1969)[505] or other legal agreements protecting artists rights, but if in the previous decades to reserve the right to royalties from your own work, you had to go to a notary, this time it is enough to choose the right medium. Besides, even today not all countries have special regulations like *droit de suite* or Artist's Resale Right, which was only recently extended by a EU directive across all EU countries[506] and NFTs look like

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[501] "John Gerrard to Release NFT in Support of Cryptofund for Climate and Soil Regeneration," Pace Gallery's website, March 20, 2021, https://www.pacegallery.com/journal/john-gerrard-release-nft-support-cryptofund-climate-and-soil-regeneration/.

[502] Sebastian Smee, "Will NFTs Transform the Art World? Are They Even Art? (A critic goes to Miami's Art Basel to answer your questions, and his)," *The Washington Post*, December 18, 2021, https://www.washingtonpost.com/arts-entertainment/2021/12/18/nft-art-faq/.

[503] "Lucas Samaras x Pace Gallery Featured Drop," KnowOrigin, September 15, 2021, https://knownorigin.io/journal/drops/lucas-samaras.

[504] "Why These 8 Artists Are Making NFTs."

[505] See Jeannine Tang, "Future Circulations: On the Work of Hans Haacke and Maria Eichhorn," In *Provenance: An Alternative History*, 171–194. "Artist's Reserved Rights Transfer and Sale Agreement" is the agreement that has set the model of legal liaising between the artist, institutions, public and the owners. Ibid., 183.

[506] Roxana Azimi, "France," in Goodwin, ed. *The International Art Markets*, 135.

a perfect way to protect the residents of countries, where the author's right are still in their infancy.

Speaking of the way artists apply to NFT, it is hard not to avoid Beeple's story, who thanks to NFT became the third most expensive living artist (see pp. 125-126, 135). Mike Winkelmann, more known as Beeple, is a graphic designer who never presented himself like an artist but rather as a craftsman who created visual stuff in his home for years, shared it on the internet and suddenly in two months became popular that for him, as he shared in an interview, is "mindbagling."[507] Speaking of his turn to NFTs, he avoided any statements, preferring to assume that all NFT-market could be a bubble. It looks more than understandable; a person suddenly made a huge amount of money thanks to a technological novelty that was introduced to him and seen by him as a chance of "why not?"-type—he could be timid, cautious in speaking aloud his opinion. He is not Eve Sussman or any other professional artist anxious about her artists rights, who creates refine works for a rare audience or whose projects like those of Sussmann (on Sussmann's work with the blockchain technologies, see the chapter "Fractional ownership") are just very time-consuming and it is not clear how to distribute them—Mike Winkelmann successfully made his living thanks to his numerous projects and made art as a hobby. By an occasion, a rep from a digital art online auction platform Nifty Gateway had sent him a message in September 2020, noting Beeple's popularity and asking if he'd consider doing a drop. First Winkelmann ignored the message, but after thinking a while decided to make a test, keeping in mind stories of other artists he knew were making huge amounts of money thanks to such auctions. In October, three of his works auctioned by Nifty crashed the platform website. In turn, this story and a couple of his later sellings were noted by Christie's.[508] Of course, after this phenomenal success, he

[507] "Beeple Explains The Absurdity Of NFTs," *The Business Insider* (official YouTube channel), March 12, 2021, https://www.youtube.com/watch?v=nTmF26NUZTA.
[508] Harrison Seletsky, upd. by Kyle Baird, "NFT Digital Art Collection Sells for Almost $800,000," beincrypto.com, December 14, 2020, https://beincrypto.com/nft-digital-art-

allows himself to act as proponent of cryptocurrencies in his art (creating images about that) and even to make some statements about politics and blockchain in his Twitter (like his address to Barack Obama[509]), but to stay on a safe side, at the moment that is still a bit naive and doesn't allow to speak with full confidence that he firmly believes in NFTs as the way to protect artist's rights or has a vision of the whole new system.

To sum up, even though there are artists who either limited in resources or as Koons preferred to take neutrality and wait, many more take their first steps in this direction. And their reasoning is diverse: for those who are already endowed with the celebrity status as Hirst and Murakami, the NFTs, apparently, present an obligatory performance in which they must succeed or at least consolidate their positions. Interestingly, both Hirst and Murakami explain their interest appealing the new mediality. The collectible nature of NFTs transforms the very act of collecting art, and as Murakami notices, "[once] you share the fact [of having purchased] with others, the concept of collecting is established in your brain" (see above). Hirst meditates on this issue, drawing an analogy with computer games, in which ownership of a digital object is directly related to the fact that there are significant others nearby who know about it. These new collectibles refigure our old understanding of authentic and original. Here it is worth remembering also CryptoPunks and Bored Apes Yacht Club series, which not only rely on the gamification, as I said earlier (see p. 138), but expropriate the same modern

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collection-sells-for-almost-800000/; Nick Chong, "Ethereum NFTs Back in Vogue as a Collection of Digital Art Sells for $777,000," *Cryptoslate*, December 15, 2020, https://cryptoslate.com/ethereum-nfts-back-in-vogue-as-a-collection-of-digital-art-sells-for-777000/; Mickey Rapkin, "'Beeple Mania': How Mike Winkelmann Makes Millions Selling Pixels," *Esquire*, February 17, 2021, https://www.esquire.com/entertainment/a35500985/who-is-beeple-mike-winkelmann-nft-interview/; "Beeple: An Inside Look Into His Art, Career and Life," *NVIDIA Studio Spotlight* (YouTube channel), December 17, 2021, https://www.youtube.com/watch?v=XKBtUe1E_I8.

[509] "BarackObama when NFT? as a community builder I think you could do AMAZING things with this technology that is perfectly built to bring people together to work towards a common goal <…>" beeple on Twitter, 4:01 AM, December 13, 2021, https://twitter.com/beeple/status/1470197271904063495?cxt=HHwWjsC42aOomOcoAAAA.

cultural code: authenticity of a collectible item.

If we discard idealistic reasoning like the ones of Glenn Kaino, pretty often artists turn to the NFTs as to something new with no back thought, like, for example, the American artist Penny Slinger or as digitally-experienced Russian group AES+F as an extension of their practice. As a new medium it might open new sales markets. The same is true for the museums which with their NFT exhibition open doors to the new visual culture and discover new artists, attracting a wider audience.[510]

Another option why an artist could choose the NFTs-market is the economic liberation the blockchain-based technologies give. It could be that NFTs will force out the previously established practices to confirm authorship with the help of legal agreements like *droit de suite* or Artist's Resale Right. Besides, speaking of the practical benefits blockchain technologies bring—though, in this case, to the collectors—we must say that it gave rise to a totally new form of ownership—so-called fractional ownership, the topic of the next chapter.

And it must be admitted that there are people like Beeple who have become recognized artists thanks to the NFT—if, of course, we discard snobbish considerations in the spirit of those shared by one of our interviewers and do not make division between the market history and art history.[511]

### *Fractional art ownership*

89 Seconds Atomized *by Eve Sussmann*

[510] So, for example, Hermitage discovered such new artists as Krista Kim, Hakatao and Beeple. See Appendix, pp. 205-206.
[511] See for example Appendix, on p. 220 ("But until there's another Bill Viola or an artist of that level in this field, I won't get hooked.") and p. 230 ("Real art has nothing at all to do with NFTs").

One of the most interesting use cases of this possibility is a work made by Snark.art,[512] tech lab from New York with the artist Eve Sussman. Because the ledger in blockchain is distributed, meaning that it exists in many interconnected copies,[513] it can also enable different models of social interactivity via the use of "smart contracts." Thanks to blockchain it was possible to produce a total of ten copies of *89 Seconds at Alcázar* (2004), and two artist's proofs. The copies of the art work are owned by museums (Museum of Modern Art, The Whitney Museum of American Art, The Leeum, Samsung Museum of Art) or are in private collections. Later on, Eve Sussman shattered her last artist's proof of the video piece *89 Seconds at Alcázar* into 2,304 squares, or so-called "atoms," which were put up for sale. The resulting blockchain-based artwork, *89 Seconds Atomized*, as it is written in its whitepaper, "can be collected by a group of new owners, who are empowered to reassemble the full video at will."[514] The unique 20×20 pixels fragments on the blockchain to nearly 300 collectors worldwide.[515] Thanks to the smart contract, each individual collector, even if they owned just a single fragment, could request access to the whole work for a day, via the blockchain. Owners of the pieces can lend it to other members of the community, or not lend them—then these pieces in the video will be missing, and the video image itself becomes a kind of mosaic. The proclaimed mission of this project was democratisation of access to artwork while also ensuring how a single artwork could be shared across a large number of collectors. Initially, Snark.art reserved the right to automatically loan a piece from any owner for the period approximately 20 days per year in order to organise public screenings, but this

[512] Snark.art launched in 2018 and initially produced art projects that tried to push the limits of how blockchain technology could be used beyond simply as a registry for art. They challenged artists to explore such concepts as communal ownership, to artworks that mutate as they change ownership, and even decentralized live performances organized on blockchain.
[513] Amy Whitaker, "Art and Blockchain," 22.
[514] *89 Seconds Atomized*, Snark.art, https://snark.art/89seconds/.
[515] *89 Seconds Atomized* (white paper), 4, https://snark.art/89seconds/assets/artworks/89seconds/89-seconds-Atomized-White-Paper.pdf

right, but at the same time it was written that any collector has the freedom to terminate such loans prior to the expiration of the loan.[516] Snark.art here took the role of a kind of moderator which is gradually being eliminated—as soon as the community learns the rules of circulation of this work of art, or organising screenings—another version of gamification, based on group behaviour, but on a more eloquent level. And moreover, in the case of Eve Sussmann's *89 Seconds Atomized*, which is a remake of *Seconds at Alcázar*, which, in turn, used one of the most studied in the art history paintings—Diego Velázquez's *Las Meninas* as a jumping off point—the class of buyers is completely different.

On a technical level, each of these squares is registered on the ethereum blockchain as a digital nonfungible token meaning that it cannot be duplicated, but can be freely traded, and was sold for dollars (or the equivalent in ethereum) through a series of international sales. After the purchase, the atoms were transferred to owners' digital wallets via Snark.art website.[517] The initial sales happened relatively quickly. Snark.art sold about a third of the fragments after the initial release of the project in 2018 and it was an amazing diversity of collectors that ranged from artists to bankers to crypto enthusiasts.[518]

The technical part of the work—or how it should be explained to the audience and buyers—was also taken by Snark.art as their educational mission. All the roles, fees and royalties in the case of further resellings of atoms are described in detail in their white paper,[519]—protecting the rights of the artist with technical means only. No legal agreement could automatically guarantee that your work changes the owner, you will for sure get your royalty. This is exactly what Eve Sussmann accentuates in her partnership with Snark.art, saying that selling limited editions (typical for video makers and photographers) was a solution to how to make a living, but at the same time the fact that they were limited posed

[516] Ibid., 10.
[517] Ibid., 8.
[518] From personal discussions with Snark.art.
[519] *89 Seconds Atomized* (white paper), 11–14.

another problem—constant need to invent, create, and produce new art.[520]

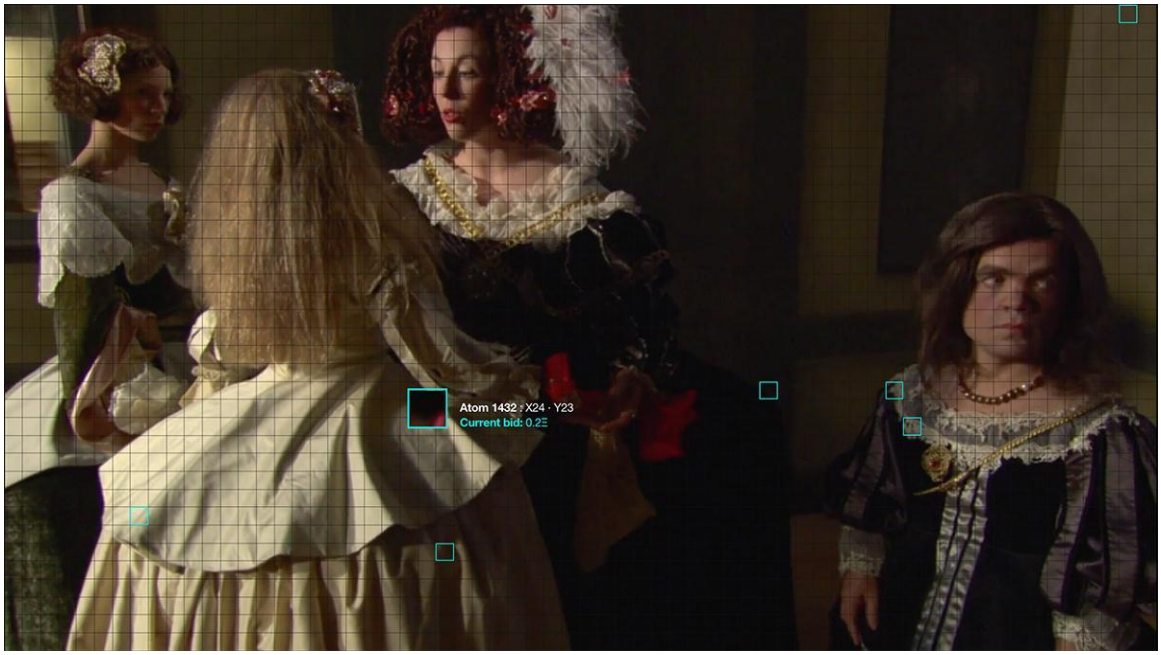


Fig. 1. Fragment of "89 seconds Atomized" by Eve Sussman

Another important possibility which blockchain gives to art is democratisation. The original video costs around $200,000—none of the general fans of the artist could afford it—only museums and big collectors. “89 Seconds Atomized” one piece cost $100–120. Therefore, they were bought by ordinary people who were interested in Eve Sussman and her art. As a result, we can see an interesting effect: people started watching the work more often. MoMA gets this video from the archives at best every five years. And then there is a community that takes turns borrowing pieces from each other and watching. In this case, the rules for the number of copies are not violated—it is one and the same copy.[521]

For the cases of pieces absent the following idea was invented: the place starts to be a black square or duplicating adjacent pieces. It is curious that over

[520] Eve Sussman "89 Seconds Atomized" Interview, Snark Art (YouTube channel), October 4, 2018, https://www.youtube.com/watch?v=uUzLLHUqQnE.
[521] Jeff Wilser, "How NFTs Became Art, and Everything Became an NFT," *Coindesk*, March 7, 2021, https://www.coindesk.com/markets/2021/03/07/how-nfts-became-art-and-everything-became-an-nft/.

time, owners will change, somebody will lose access to wallets, and work will gradually disappear. The artist really liked this idea, she says: "I am mortal, and if my work is mortal, it is wonderful."[522]

### *Maecenas, Artopilie, Masterworks, and other companies providing fractional art ownership*

Another example of shared-NFTs is provided by Maecenas,[523] an open blockchain platform that allows investors to purchase multimillion-dollar artworks in "asset tokens"—digital units that are equivalent to a fraction of the cost. In the same 2018 year, they partnered with London-based Dadiani Fine Art to sell 31.5% of Andy Warhol's *14 Little Electric Chairs* (1980) by fractional tokens.[524] In October 2019, when the London gallery was closed up, the gallery founder being asked what's with the rest of the painting, said that "the Warhol is in storage in Switzerland and 'we are set to tokenise the remaining 68.5%'."[525]

The number of projects like Maecenas increases. For example, another platform Artopolie, launched in 2019, offers investing in a Picasso's painting by becoming its fractional owner, for as little as 50 dollars.[526] Recently former Christie's co-chairman Loïc Gouzer is, reportedly, getting into NFTs with his latest venture, a company called Particle. Particle will buy pricey physical artworks, digitise them, and then divide each into unique NFTs. Though it is obviously an investing project, the co-founder of Particle states that it's more

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[522] From a personal communication with the artist.
[523] Maecenas was the first blockchain-based platform that allows anyone to buy, sell, and trade part ownership in masterpieces on a liquid exchange.
[524] "Andy Warhol's 14 Small Electric Chairs To Be Sold in Blockchain Art Auction," Maecenas' blog, 7 June 2018, https://blog.maecenas.co/andy-warhols-14-small-electric-chairs-to-be-sold-in-blockchain-art-auction/
[525] Georgina Adam, "Piece by Piece: The Issues with Fractional Ownership of Art," *The Art Newspaper*, 30 October 2019, https://www.theartnewspaper.com/2019/10/30/piece-by-piece-the-issues-with-fractional-ownership-of-art.
[526] https://www2.deloitte.com/ru/en/pages/about-deloitte/deloitte-in-press/2020/pikasso-za-tokeny-kak-investirovat-v-iskusstvo-cherez-blokchejn.html.

about collecting than about investing—"about being part of a community that's powering something versus just in a fund with a bunch of other investors."[527]

Close to Maecenas stands a start-up Masterworks.[528] The company makes investments in art available for everyday people, and what's interesting is that they "democratise" the audience not by selling cheaper works, but by selling established works with a track record, by artists such as Claude Monet, Mark Rothko, Andy Warhol, Keit Haring, Kaws, Banksy, and many others. The users of this platform can buy SEC-registered fractionalized interests and shares of blue-chips—not NFTs[529] (though surfing the Internet you can come across the company's job offer for a specialist in NFT's[530]). At the moment, Masterworks remain if not sceptical, than cautious in regarding of NFTs market, saying "basically, NFTs aren't fully established in the art world yet—right now, you're mostly dealing with first-generation NFT buyers, and like any other fine art asset, the value of fine art comes from its resale value. It remains to be seen whether NFTs will offer the same economic growth as physical blue-chip art."[531]

The weak side of such projects, with the exception of Masterworks, which does not yet work with NFT, one of my interviewees perfectly identified. Sergei Lukashkin, director for digital transformation projects at VTB, one of the largest Russian banks, says that such projects could end up as "just another bubble, because none of [the holders] have a claim to the whole painting unless they buy all of the other tokens."[532] Besides, there are a lot of questions about how to regulate where it's stored, who pays for that storage and who pays the transaction

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[527] Taylor Dafoe, "Former Christie's Rainmaker Loïc Gouzer Debuts a New Company to Sell Fractional Ownership of Pricey Artworks as NFTs," *Artnet*, December 1, 2021, https://news.artnet.com/art-world/2042395-2042395.
[528] https://www.masterworks.io.
[529] Lucas Matney, "Masterworks Raises $110M to Sell Fractional Shares of Physical Art—Not NFTs," *TechCrunch*, October 5, 2021, https://techcrunch.com/2021/10/05/masterworks-raises-110m-to-push-fractional-shares-of-physical-art-not-nfts-into-investor-portfolios/.
[530] https://masterworks-io.breezy.hr/p/72b63495c60b-research-analyst-nft-market.
[531] NFTs and Art Investing," Masterworks blog post, https://www.masterworks.io/insights/nfts-and-art-investing/.
[532] Appendix, p. 230.

costs. The 2019 Deloitte Art and Finance report notes that the art market remains highly volatile; and reminds that besides, none of art blockchain platforms has completed an ICO so far, which increases investment risks.[533] Only 19 % of collectors and art professionals said they were interested in fractional ownership.[534] If challenges will be overcome, in the words of Deloitte's global art and finance director Adriano Picinati di Torcello: "The future of fractional ownership could be bright."[535] However, at the current historical moment to speak about f-NFTs in art as if they present good assets, would be very reckless. On one hand, art itself, with the exception of blue-chips, is an extremely liquid asset. On the other hand, investing in f-NFTs of even widely acknowledged art—as in the case of Picasso's painting—is an untrodden path, and it could break abruptly with legal consequences not clear.

To the culturological perspective of blockchain and its mediality, as well as to its place within the traditional art market, I will return in more detail in the concluding part of the work.

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[533] "In most countries, platforms that issue tokens are controlled by the regulators, such as the United States Securities and Exchange Commission (US SEC), Monetary Authority of Singapore (Singapore MAS), or Swiss Financial Market Supervisory Authority (FINMA, Switzerland). <…> From the Russian legislation standpoint, tokens can be classified either as digital assets or as security tokens, depending on the rights attached to them. The issuance and circulation of tokens is regulated by a number of rules and limitations set forth in Federal Law No. 39-FZ, while tokens can be recognised as financial derivatives." However, even though some regulations are imposed on this market, there are still multiple regulatory gaps and questions, such as those Sergey Lukashkin is mentioning and more: what is the legal status of ownership split and subsequent sale of fractional interests in an artwork? how is the status of the original changing after tokenization? Nothing to say about taxes and resale royalties. Daria Rusanova, Katerina Polyakova, "Picasso Tokenised: How to Invest in Art via Blockchain," Deloitte Art & Finance, Deloitte in the News [translation of Russian article on the official Deloitte website], December 7, 2020, https://www2.deloitte.com/ru/en/pages/about-deloitte/deloitte-in-press/2020/pikasso-za-tokeny-kak-investirovat-v-iskusstvo-cherez-blokchejn.html.

[534] Cit. in Adam, "Piece by Piece."

[535] Ibid.

# Part IV. The sociocultural context of provenance research: the problem of authenticity and art markets

## *Authenticity, originality, artistic signature and other related problems*

The use of NFTs and other modern technologies not only transform the provenance can be encrypted and storaged, but also transforms/refigures the inherently related concepts of authenticity and originality of works of art. Before analyzing the nature of the modern shifts, already sketched out in the previous part, we should first define these two concepts. In the last century, it became obvious that the connection between them is not as unambiguous as it might seem before.

Rosalind Kraus, in her book *The Originality of the Avant-Garde*, tells how in 1981, Rodin's new sculpture *The Gates of Hell*, cast three years earlier, in 1978, sixty years after the death of the sculptor, was exhibited at the National Gallery in Washington DC. This became possible due to the fact that Rodin bequeathed to France his workshop with all the remaining blanks and the right to make castings from them. The French state established that there should be no more than twelve such castings from each blank, the French were in no hurry to make copies, and thus the sculpture *The Gates of Hell*, which appeared in 1978, can be considered to belong to Rodin. Kraus writes that for Rodin, who made his will in this way, castings from his sculptures were not considered less valuable copies. Kraus calls Rodin's participation in the production of castings "remote": he could not visit the workshops where his blanks were transferred to permanent materials (like bronze or marble), he never followed the process, he did not control the packaging and sending of items to the buyers and dealers. For Rodin, Kraus writes, reproducibility was an essential part of his work. However, since the art

market is still subject to the cult of the original, that makes us, according to Krauss, think with squeamishness about the numerous castings obtained from a single, original and authentic sample created by the master.[536]

Another example Krauss explores in her essay is photography.[537] Following Walter Benjamin, she shows how, despite the fact that photography is fundamentally a replicable art form, and the concept of "authentic shot" does not make any sense, collectors are trying to find something that would replace it. This is how the "vintage print" appeared—a print made by the photographer him- or herself at a point in time as close as possible to when the shot was taken. Kraus calls this a "mechanistic approach to authorship": a more successful print may not come from the photographer himself, but from someone who knows better how to make prints, after some time the photographer may crop the frame in a different way, so that it becomes more successful; paper and reagents can be chosen to reproduce the look of a photograph from almost any era, but the photographic collector's market would still value vintage prints more than later prints, even if they turn out to be more successful.

Within the same context, we can recall Andy Warhol's *Brillo box* – numerous plywood boxes identical in size and shape to supermarket cartons. Warhol and his assistant painted and silkscreened the boxes with different consumer product logos: Kellogg's corn flakes, Brillo soap pads, Mott's apple juice, Del Monte peaches, and Heinz ketchup. The finished objects were almost indistinguishable from their cardboard supermarket counterparts. Warhol first exhibited these at the Stable Gallery in 1964, cramming the space with stacked boxes that recalled a cramped grocery warehouse. He invited collectors to buy them by the stack, and, though they did not sell well, the boxes caused controversy. In reference to his boxes, Warhol later said that he "wanted something ordinary," and it was this mundane, commercial subject matter that

[536] Rosalind Kraus, *The Originality of the Avant-Garde*, 156.
[537] Ibid.

infuriated the critics. The "machine-made" look of Warhol's boxes contrasted sharply with those traces of individuality that the artist's hand leaves.

In common sense and language, recorded in dictionaries, words "authentic" and "original" mean an object from which copies can be made, but it is not itself a copy (concerning the NFTs, their rise is based on the joy of owning the original or the authentic art object). William Wei in an article devoted to what is authenticity, originality and objectivity in the field of restoration of works of art[538] (and for restorers these issues are almost more important than for art historians), gives dictionary definitions of the terms authenticity and originality in the middle of the twentieth century and today, showing that their content remains more or less constant:

*Original*

1. *belonging or pertaining to the origin or beginning of something, or to a thing at its beginning ...*

5. *being that from which a copy, a translation, or the like is made. ... (Stein 1975)*[539]

B1: *existing since the beginning, or being the earliest form of something,*

B2: *an original piece of work, such as a painting, etc. is produced by the artist and not a copy (Cambridge Dictionary online 2022)*[540]

*Authentic*

1. *entitled to acceptance or belief because of agreement with known facts or experience; reliable; trustworthy*

2. *not false or copied; genuine; real ...* (Stein 1975)

1. *known to be real and genuine, and not a copy*

[538] William (Bill) Wei, "Authenticity and Originality, Objectivity and Subjectivity in Conservation Decision-Making—Or is it Just a Matter of Taste?," *Studies in Conservation* (2021).
[539] Stein, J. 1975. The Random House College Dictionary, rev. edn. New York: Random House.
[540] Cambridge Dictionary online. 2020 [accessed 20 August 2022] (https://dictionary.cambridge.org/dictionary/english/original)

2. *true and accurate*

3. *made to be exactly the same as the original (Oxfords Learner's Dictionaries 2022)*[541]

An important conclusion for us that Wei draws from the analysis of definitions is that if it is still possible to find some objective measure for originality (to establish that a work of art was created by the hands of a particular artist), then authenticity includes exclusively subjective categories of acceptance of some or opinion, experience and trust. When applied to restoration, according to Wei, these terms hide the fear of being "biased," the fear of making a mistake. I think the same is true in relation to the art market: buyers' and dealers' will to find an object as close as possible to what came out from under the hand of the master hides the desire to possess something unique and the fear of losing this uniqueness. Since the NFTs as a technological decision excludes the human factor, we barely could speak of any difference between the authenticity and originality of an NFT work.

In the context of the hidden motives and fears of art market actors, it seems useful to look closer at the concepts of intellectual property and ownership. Christel Force[542] in *Collecting and Provenance* reveals some roots of the twentieth century ideas of intellectual property that inherently influence our ideas of intellectual property and authorship rights. Force eliminates the first and the last steps of each provenance: the author, and the art historian who writes the object's biography. Although, of course, artists existing in historical and cultural contexts are seen through the lens of their relationship with patrons, the market and the press—not solely alone with their works.

[541] Oxford Learner's Dictionaries. 2020 [accessed 20 August 2022] (https://www.oxfordlearnersdictionaries.com/definition/american_english/authentic)
[542] Christel Force, "Intellectual Property and Ownership History." In *Collecting and Provenance: A Multidisciplinary Approach*, 17–36. Force is a former associate research curator of Metropolitan Museum of Art.

Force explores primarily the careers of Matisse and Picasso. Both of them signed exclusive contracts with the galleries which exhibited their works. Both of these contracts included lines stating that it is the author who determines whether the work is complete or not.[543] What did it mean "the exclusive contract"? The author receives a monthly stipend or other agreed compensation, and his primary dealer is either entitled to the entire artist's production in the case of an exclusive contract (*contrat d'exclusivité*) or is content with the right of first refusal (*droit de première vue*).[544] And how could an artist signify completion to the dealer? This could happen both verbally and in writing, but as Force states, "the rule of thumb was that upon completion the artist signed the work."[545] Picasso, for example, in the 1930s, in a drawn-out trial, used the absence of his signature on some of his early works as "evidence that they were not meant to be thrust into the public sphere—let alone sold."[546] Another story is about the famous painting by Picasso *Les Demoiselles d'Avignon*, which was left unsigned and was derided by almost all Picasso's closest friends and admirers. Seventeen years after its creation, the work was finally sold. No wonder, the creators sometimes reevaluate the experiments of their youth as time passes, if a reputable collector offers to buy the work.[547]

By stringing modernist stories like this, Force reflects on what an artist's signature means and what options it can take—reminding, of course, that the link between the signature and market value arose in the Renaissance, when "a master would sign the paintings coming out of the studio regardless of whether the trees in the background or the folds of a mantle were painted in by a specialised assistant."[548] The modernist attitude toward signature, as Force presents it, was

[543] Ibid., 18.
[544] Ibid.
[545] Ibid., 19.
[546] Ibid.
[547] Ibid., 24.
[548] Ibid., 24.

very challenging and complicated: firstly, the signature labelled the art as commodity, secondly, it could relate to the stage of completion of work of art or, at least, to the author's view (up)on that, but much more interesting is another artistic approach concerning the use of signature—though, maybe, not forming a sustainable trend—the playful usage the Cubists and Dadaists practised, when the signature could be a part of the picture or was deliberately misleading, as for example, the signature Duchamp used for his *Fountain*.[549]

As Sophie Raux pointed out in her essay: the signature, even though it was common practice among artists to sign their works, was not used as a guarantee of authenticity by the authors of the first catalogues. That is that prior 1750 such the information of presence or absence of signature was irrelevant.[550] Anne Higonnet in her afterword to the *Provenance: An Alternative History of Art*, reminds that another author of this volume Dominique Poulot notices that in French the word "signature" was not commonly used until the nineteenth century and proposes not to think of signatures as the marks of authenticity, hence the production of provenance can not be isolated from the market it supposedly serves.[551] In the nineteenth century the signature as a sign of authorship was being formed, but the tendency to use signature as a certain form of authorship has been seen only in 1900s France and coincided with the evolution of *droit d'auteur*. "The signature seals the end of the creative process and indicates that the resulting artwork is suitable and sellable," as Force writes, and "is tied to the notion of an artist's ownership of original creations."[552] Later, as art mediums evolved, authorship began to be set by legal agreements, such as "Artist's Reserved Rights Transfer and Sale Agreement" (1969) and the *droit de suite*, or resale right, that

[549] Or the way Picasso played with the very idea of artistic signature, masquing it "as an illusionistic label affixed to *a trompe l'oeil* frame." Ibid., 26.
[550] Raux, "From Mariette to Joullain," in ibid., 99-100.
[551] Anne Higonnet, "Afterword: The Social Life of Provenance," in ibid., 206.
[552] Force, "Intellectual Property and Ownership History," in ibid., 17.

guarantees the artist to receive a percentage of the revenue from the resale of their works.[553]

"Our understanding of ownership—the value associated with private-property rights—are changing profoundly in the emerging networked environment. Although markets remain a powerful force for creating certain types of wealth, a new social institution that combines productive activity with self-governance and new forms of property rights is starting to emerge: the commons," writes David Bollier.[554] Copyright and its kindred bodies of law seek to convert knowledge and culture into artefacts of property (songs, texts, images, videos) so that they can be owned and sold. But there is a built-in tension to this act of propertizing culture, because the very existence and meaning of these works depend in great measure on their unrestricted social circulation. Works are meaningful only because they are part of a shared cultural context. Bottling up a work as a proprietary commodity can help convert that work into money (by enabling its ownership and sale), but it can also—especially in the Internet age—diminish the value of a work (by making it less known and less accessible to society). In other words, value is not necessarily intrinsic to a cultural artefact, but rather arises from its social circulation, uses, and ascribed meanings. Thus, Boiler, advocating the free circulation of cultural values, in a sense, opposes Wei, for whom the unambiguous authorship and possession of one or another object of art form the basis of the profession. We can assume that the introduction of blockchain technologies in the field of art will allow reconciling these polar points of view in the future and will lead to new forms of existence of art objects and formats of their possession that have not yet been determined today, since these technologies allows us produce items, which unite a medium and a guarantee of

[553] See p. 101, fn 342 and p. 153, fn 504.
[554] Bollier D. Digital Commons, "The Rise of New Models of Collaborative Ownership," In La L. Follette, L. ed., *Negotiating Culture: Heritage, Ownership, and Intellectual Property* (University of Massachusetts Press: 2013).

authorship. And here we can meditate on what makes people purchase expensive digital items the very nature of which excludes even a hint of uniqueness.

## *Art as a commodity: perspectives on art market research*

Understanding the phenomenon of the art market, including in a historical perspective, is not the task of my study, so I will not dwell on the formation and functioning of art markets. However, it is obvious that the issues of provenance and authenticity are closely important factors that form the cost of a work of art, so it seems important to dwell on some aspects of research into the structure of the contemporary art market.

Speaking of the art market development and its fluctuations we must consider first of all the global economic situation. The complex system of art market as the last decades show reacts to the ups and downs of the global market—in a very predictable, though a specific way. A brief boom and the following fading caused by the Japanese asset price bubble in the 1980s;[555] then the growth beginning in the late 1990s with the number of art fairs grown six times and auction sales tripled during the noughties before the 2008 crisis;[556] and the following skyrocketing escalation of prices with the prediction for the new collapse[557]—which ended up in the pandemic-years of recession when the global

[555] Paul Ardenne, The Art Market in the 1980s. *International Journal of Political Economy* (vol. 25, no. 2, 1995): 100–128.
[556] Stefano Baia Curioni, Marta Equi Pierazzini, and Laura Forti, "Philosophic Money. The Contemporary Art System as a Market and Cultural Agent," *Arts*, vol. 9, no. 4 (Multidisciplinary Digital Publishing Institute, 2020), https://www.mdpi.com/2076-0752/9/4/110/htm.
[557] Alan Bamberger, “Hey Kids—It's Bubble Time!," Alan Bamberger's [art consultant, advisor, author, and independent appraiser] website, 2015, https://www.artbusiness.com/orwxb.html.

sales of art and antiques in 2020 were 22 percent down since 2019 and 27 percent since 2018.[558]

However in modern art history, it is generally accepted that the art market is not just a purchase and sale of art values, but a more complex phenomenon, one of the key elements of which is communication between various actors: an artist, a customer, a buyer, a dealer, a critic, a curator, etc. "This is a social space where a community of creators, buyers, intermediaries and organisers of this space through a whole range of public tools—galleries, exhibitions, conferences, publications, etc.—jointly determine whether to consider this artefact a work of art, what is its value within the art market and its price," wrote Mark Naidorf.[559]

### *The art market: a brief foray into history*

Historically, we can distinguish two types of art markets: primary and secondary. In the primary market, the work is sold for the first time, for example, it passes from the artist to the customer. In the secondary market, an art object is sold by the one who once bought it himself. The essential difference between the secondary art markets and the primary ones lies in the fact that a work of art that was once already bought over time becomes more and more valuable and is again offered for sale. The secondary art market arises as a result of auctions organised, for example, after the death or bankruptcy of the owner of movable property. Neil De Marchi and Hans Van Miergoth, in their review of the history of the art market, write that such auctions existed in all major cities of Europe already by the thirteenth century and most often represented a sale of all things that belonged to

[558] Key Fundings. In The Art Market 2021, An Art Basel & UBS Report, prepared by Dr. Clare McAndrew Founder of Arts Economics, https://d2u3kfwd92fzu7.cloudfront.net/The-Art-Market_2021.pdf, 17.
[559] Mark Naidorf, *After the Crisis. To the Results of the Institutional Crisis of the Arts in the XX century* (Odessa, 2009), 19. *In Russian*.

a particular person: clothes, books, furniture, dishes, works of art and so on.[560] (See also some passages on the art market history in the chapter “Art forgery” on pp. 44-48.) In Florence, in such auctions, there has been a trend towards specialisation: clothing, dishes, and furniture began to be sold separately. The first mention of an auction that sold only works of art dates back to 1498 in Florence: 26 items were sold, which went to the family of a well-known Florentine dealer. By the middle of the sixteenth century the recycling market in Florence had developed to the point where the city designated a sales venue in the city centre, opened a warehouse to store goods pending their sale, hired estimators to value each lot (which estimates became the starting point for bids), and ordained that any citizen might hold sales—not only estate sales—using the facilities.[561]

By the beginning of the eighteenth century, there were many galleries in Europe selling paintings and engravings, although, as researchers note, there was no need to talk about the big profits of gallery owners then. In the second half of the century, two of the largest auction houses, Sotheby's (1744) and Christie's (1766), appeared in London.

In the middle of the nineteenth century, a new art market system was formed in Europe. Its actors were dealers or marchandes, sales and auctions, galleries and exhibitions, advertising events, publication of special magazines and catalogues. This system also included communities of experts, appraisers, museum specialists, art critics, collectors of art collections. In addition to the long-familiar and mastered act of purchase and sale, a whole system of promoting goods to the consumer began to take shape—that is marketing.[562]

In 2021, New York (with total profit from all auctions $5.27 billion), London ($1.91 billion) and Hong Kong ($1.7 billion) became the centres of global

[560] Neil De Marchi and Hans J. Van Miegroet, "The History of Art Markets," *Handbook of the Economics of Art and Culture*, vol. 1 (2006), 69-122.
[561] Ibid.
[562] Konstantine Sokolov and Yuri Osokin, “Art Market and Science of Art,” *Art and Culture Studies*, 20, no. 2 (2017). *In Russian*.

art trade. Territories that were once on its periphery, such as Brazil, India, China, Mexico, and the United Arab Emirates, are drawn into the orbit of the art market. International fairs appear on all continents.[563]In the same 2021, the total art market was worth $17.1 billion. Of these, the markets of Western Europe and the United States accounted for 10.9 billion, China—5.9. Artprice, the largest international art market analyst, has introduced a new line in its reporting in 2021: NFT art turnover; it totaled $232.4 million.[564] The first sale of an NFT on the regulated art auction market had a tremendous impact. In March 2021, a work by Beeple entitled *Everydays: The First 5000 Days* (2021) was purchased at the stratospheric price of $69.3 million against a starting price of just $100. Its creator had no previous art market presence: no exhibitions both in galleries and museums, and no auctions. What he did have was several million followers on Instagram as well as the support of Christie's, one of the oldest and most venerable auction houses on the planet. According to Christie's, 6 of the 33 bidders for Beeple's work were from Asia. The winning bid was placed by the founder of the crypto fund Metapurse, Vignesh Sundaresan, based in Singapore, and the under-bidder was the Chinese crypto-investor Justin Sun.[565]

[563] https://www.artprice.com/artprice-reports/the-art-market-in-2021/new-york-london-and-hong-kong
[564] https://www.artprice.com/artprice-reports/the-art-market-in-2021/key-results-in-2021/
[565] https://www.artprice.com/artprice-reports/the-art-market-in-2021/the-development-of-nfts

### *The crypto-art market and its place within the global art market*

The success of Beeple and Christie's paved the way for crypto-art into the fine art market. As we have already seen, after this sale, the new medium attracted the attention of more artists and other major players, and critics began to praise this new format. This first wave led to a staggering success of such projects as CryptoPunks and Bored Apes Yacht Club: the first originated in the bowels of the crypto community, and the second appeared as an attempt to surpass the success of the Punks. I will later dwell on the relationship between the art market and the art market on the blockchain. But first I would like to focus on global parameters of the art market that show how this new technology scored the place in the fine art world.

The success of NFTs during the last couple of years can be explained by the very nature of market flow during the pandemic years. To start with, it must be said that the online art sales in total grew rapidly in the past two years, and this pace of developing sector can be seen on the diagram from Art Basel and the UBS Global Art Market Report 2021,[566] an annual global art market analysis. The

[566] The Art Market 2021, An Art Basel & UBS Report, prepared by Dr. Clare McAndrew, founder of Arts Economics (2021), https://artbasel.com/about/initiatives/theartmarket2021pdf, 213.

market cap of online sales doubled in 2020 alone.

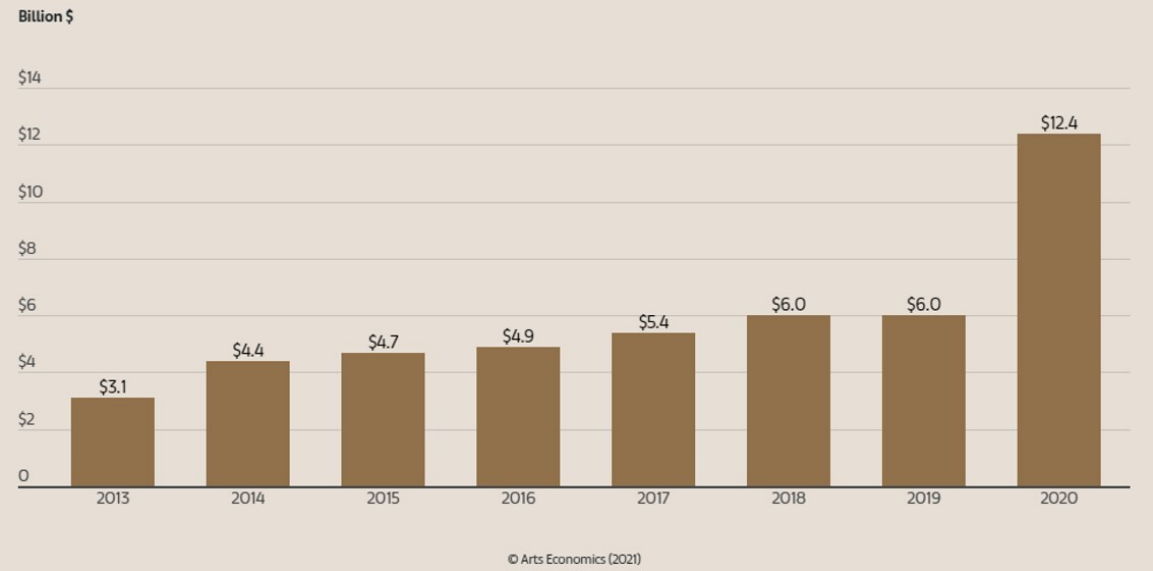


Fig. 2 The Online Art and Antiques Market 2013–2020. An Art Basel & UBS Report 2021

The growth in online sales of traditional art objects was accompanied by a boom in digital art sales, especially of NFTs (non-fungible tokens). Collectors quickly realised that this phenomenon represents a turning point for the industry, and have begun to build collections of digital art that rely on the blockchain.

Thus, the art market reacted to the technological innovations in order to make communication between its participants even more efficient (involve more participants, sell items faster, and function in the Covid-economy). For example, Beeple did not use any of the traditional channels of communication between the artist and the buyer or dealer, but the market accepted the new rules of the game and the sale went through successfully. However, we must admit that it was thanks to the Covid-situation this became possible: the pre-Covid digital art didn't have such a clear way to the market.

Nowadays, crypto-art faces a long path from opportunistic purchases for the purposes of trading to actively buying in order to develop artists' careers. For a traditional artist, having one's work repeatedly resold on the secondary market is perhaps the least desirable outcome of all. The high volume and rapid pace of trading, combined with the chaotic supply dynamics of the art market is of concern to traditional artists, galleries and curators. The crypto-art market has two

extremely important advantages relative to these challenges: freedom and transparency. The largest contribution in order to make these impressive numbers truth was made by millennials (the generation born between 1984–1990—A.L.) who are often considered the digital-first generation and "digital natives," meaning that they grew accustomed to living and working with the internet, mobile devices and an expansive ecosystem of programs and applications at an early age. The same report by Art Basel and UBS showed that millennial collectors were the highest spenders in 2020, making up 30% of the market and spending over $1 million compared to just 17% from the Boomer generation.[567]

The new customers are not only millenials, they are those who never before bought anything at the fine art market. Sotheby's, for example, in their statistics say that their NFT sales attract 25 percent of the buyers who were existing clients, versus 75 percent who were new to the house.[568]

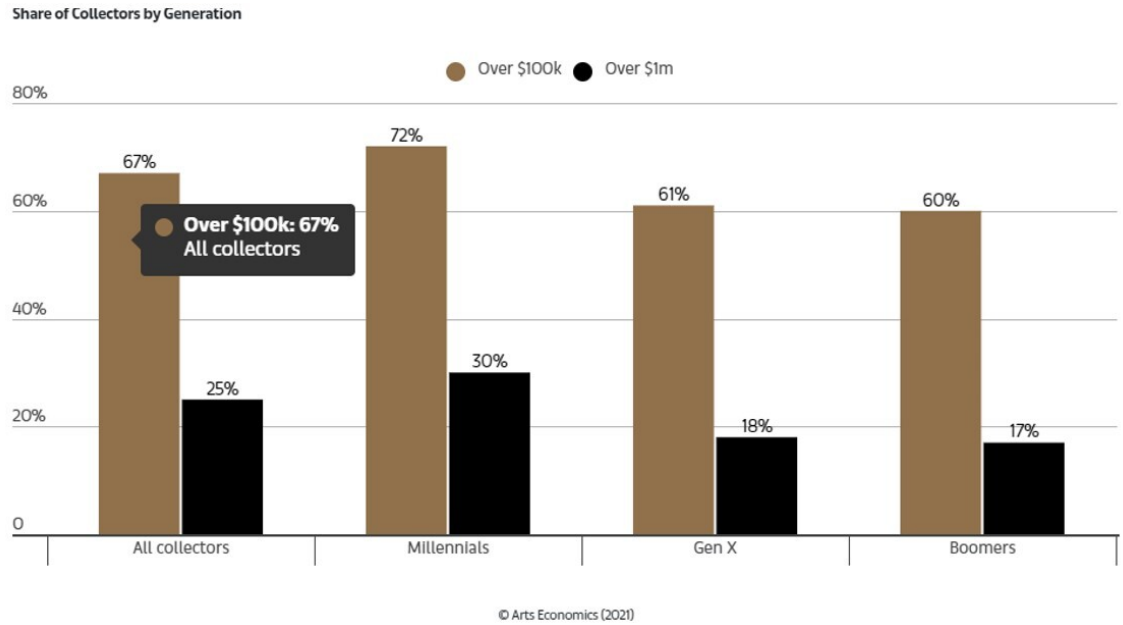


Fig. 3. The Online Art and Antiques Market 2013–2020. An Art Basel & UBS Report 2021

The crypto-sector of the art market is developing fast, and both creators and

[567] The Art Market 2021, An Art Basel & UBS Report, 22.
[568] Schneider, "Why NFTs are Just the Latest."

analysts are betting on it growing past the scale of the traditional art market.

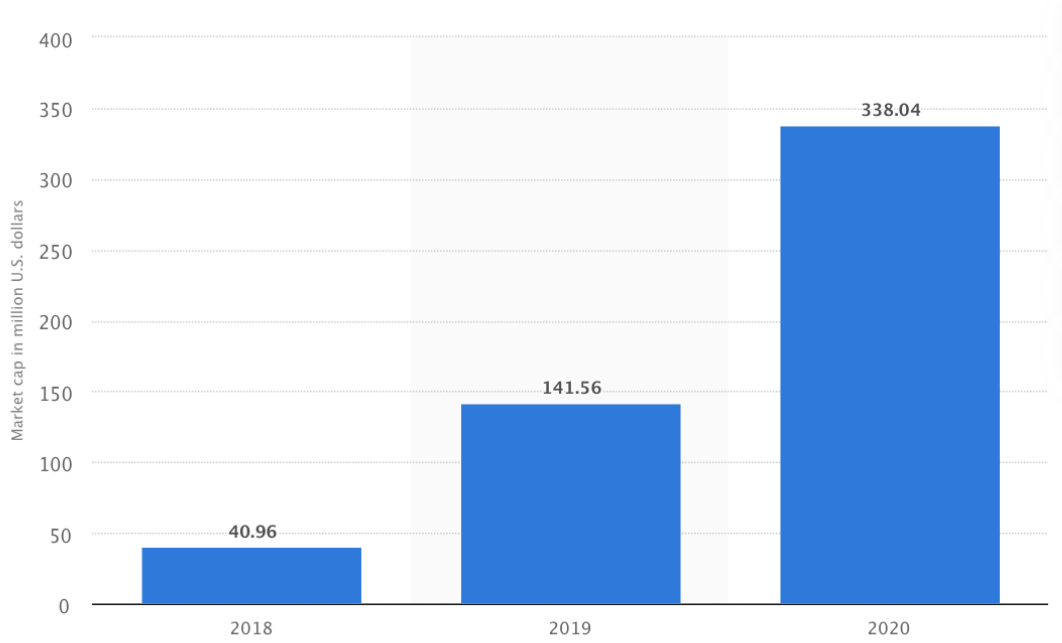


Fig. 4. Market capitalization of transactions globally involving a non-fungible token (NFT) from 2018 to 2020.[569]

Apparently, one of the main factors in this change is that collecting physical art objects is challenging: most works are only available for purchase through private channels, and then require expensive transportation and storage solutions. Digital art, meanwhile, is far easier to purchase and store: works can be kept on any computer—even a smartphone—and transactions can be completed transparently and in mere seconds. It was most pronounced during the pandemic which definitely altered art. Since collectors could not travel to art fairs and exhibits, they began actively buying items online. In the meantime, deprived of their traditional sources of income and exposure, many artists turned to the digital-first model of work, drawing and painting on their tablets or writing code for algorithmic art on their computers. As briefly mentioned in various chapters earlier, an essential element of the crypto art market is the importance of the community in recognizing the value of digital art. It is it that helps to form the importance of a particular collection through social networks and its official or

[569] https://www.statista.com/statistics/1221742/nft-market-capitalization-worldwide/.

unofficial ambassadors. However, this issue deserves separate study.

According to the latest statistics, today's crypto art market remains unstable. Following explosive growth in the second half of 2021, total trading volume reached its peak of $12.6 billion in late January and early February 2022,[570] partly motivated by the launch of the LooksRare NFT marketplace.[571] NFT sales then started to stabilise and prices returned to pre-boom levels. However, given the inextricable connection between NFTs and cryptocurrencies, the crypto crash continues to have a direct impact on sales. The "crypto winter" that started in May 2022 resulted in the worst market performance over a 12-month period in June, with trading volume just over $1 billion and outsripping only the same month last year when non-fungible tokens were sold for $648 million.[572] For the traditional art market, assessed at $60–70 billion a year, these money are but a drop in the financial ocean. Still the numbers are already significant enough for traditional market players to pay attention—even though they resolutely ignored such trends just two years ago. Nevertheless, despite current complications, the nascent digital art market—and NFTs in particular, with their expansive toolset and accessible means of distribution—still has enormous potential for further growth.

***Art as a form of production***

[570] Dan Milmo, "NFT Sales Hit 12-month Low After Cryptocurrency Crush," *The Guardian*, July 2, 2022, https://www.theguardian.com/technology/2022/jul/02/nft-sales-hit-12-month-low-after-cryptocurrency-crash.
[571] "The Chainalysis State of Web3 Report," *Chainalysis*, June 2022, https://go.chainalysis.com/2022-web3-report.html.
[572] Dan Milmo, "NFT Sales Hit 12-month Low after Cryptocurrency Crush," *The Guardian*, July 2, 2022, https://www.theguardian.com/technology/2022/jul/02/nft-sales-hit-12-month-low-after-cryptocurrency-crash.

Cultural sociology gives us some ideas about the nature and functions of the art market. The study of art as a field of production originates in the work of the American sociologist Richard Peterson,[573] known for being credited with authoring one of the influential "weak programs" (weak program in cultural sociology) in the field of sociology of art. Peterson's approach does not define art in terms of any aesthetic concept, and argues that the definitions themselves, as elements of classification systems, are derived from the social, economic, and political conditions of production. Therefore, all analytical forces are directed towards the reconstruction of the conditions of production and the study of the organisation of production. Thus, the sociology of art is likened to industrial sociology and adopts an industrial metaphor.

"Weak" in sociology are usually called research programs that build explanations of cultural phenomena in accordance with external (exogenous) reasons—economic factors, political situation or social structure. However, it was within the framework of this direction that it became possible to pay attention to many forms of interaction related to art, including the market.

In his review of sociological studies of the art market, Nail Farkhatdinov writes that Peterson, of course, is far from the first to talk about art in connection with the forms of "productive" interactions that create it. However, his merit lies in the fact that, using empirical material (without the critical speculations inherent in his predecessors), he showed how natural the industrial metaphor is when applied to the sphere of culture. This is explained not only by the epistemological power of the sociological explanation of cultural phenomena, but also by the fact that it was in the second half of the twentieth century, when there was a certain boom in research on the production of culture, that the processes of commodification touched the sphere of culture and were reflected primarily in the

[573] Richard A. Peterson, "The Production of Culture: A Prolegomenon," *American Behavioral Scientist,* 19, no. 6 (1976): 669-684.

emergence of the sphere of entertainment and mass culture.[574] The *industrialist* approach (italics mine) is suitable for us, even though at the moment there is not enough data analysing the blockchain in art (reports of the consulting agencies and market analysts that use very simple categories of analysis—geography of purchases, age and wealth category of buyers). But the place but the place that crypto art occupies is clearly gravitating towards the commodity and mass culture, and thus, it is worth at least hypothetically, without having extensive data, to figure out what political and economic processes create this art—and therefore for what buyers this type of provenance exists.[575] We won't articulate the position art on blockchain hold, since despite the proponents of cryptoart like Beeple (p. 155), from point of view of "strong programs" placing this phenomenon at the centre, and studying its influence—what I would like is to consider its place and interactions with other market agents for more realistic forecasts.

Modern studies of culture are characterised not only by attention to the side of production (which often comes down to a description of the social conditions for the functioning of an institution), but also by an analysis of consumption, that is, perception, evaluation by the audience. Peterson notes that a full-fledged sociological analysis should address the following six elements of the production grid:[576]

- a detailed analysis of the level of technology required for the production of a particular cultural object. Its changes are of particular interest to the sociologist. So, for example, the invention of new methods of sound recording leads to the transformation of existing and the emergence of new directions in music;

[574] Nail Farkhatdinov, "Art as a Commodity: Old and New Research Perspectives," *Economic Sociology* 12, no. 3 (2011): 127-144. In Russian.
[575] The art economists have just taken up the NFT art market, but full-fledged reports are still far away. Denis Belkevich, NFT Art Market. ArtTactic Report. Part 1, *Artinvestment*, May 25, 2021, https://artinvestment.ru/invest/analytics/20210514_NFT2021.html. *In Russian*.
[576] Richard A. Peterson and Narasimhan Anand, "The Production of Culture Perspective," *Annual Review of Sociology* (2004), 313.

- a legal and regulatory component, which, like technology, limits the production of culture in certain cases and sets a specific development for one or another direction of culture. An example of regulation might be intellectual property rights legislation, the tightening of which leads to changes in the structure and ways of consuming cultural goods;
- the structure of the industry resulting from regulatory and technological development, which is reflected in the presence of large and small players;
- organisational structure of certain participants in the cultural industry. The modern book publishing business is a good example, reflecting the diversity of organisational structures (from small conceptual communal enterprises and family bookstores to huge supermarket chains selling books both offline and online). Organisational specifics also affect the range of products, and the interaction with publishers, authors and buyers;
- the careers of the participants (their consistent study allows us to restore the sociological understanding of "creative activity" and the profession);
- market structure (it plays a key role in this scheme, since it sets a general framework in which each of the previous elements has its place).

Based on this theoretical framework, it is interesting to look at studies that record the transformation that led to the current state of the art market and its marketization. The system, which existed before the emergence of markets, assumed the presence of patronage from the ruling circles or religious institutions. They were replaced by impersonal mechanisms for regulating the activities of the artist. With the advent of the market, works of art have lost their specific customer, and the artist has the opportunity to realise his tasks, focusing on the market and preferences on it. These changes were accompanied by changes in the

systems for the recognition and distribution of works of art. This period, for example, is also associated with the appearance of the public in art.[577]

A classic example of research in this direction is the already mentioned work of Harrison and Cynthia White (*Canvases and Careers: Institutional Change in the French Painting World*).[578] Researchers focus on the art world of France in the second half of the nineteenth century. The analysis is built through a socio-historical comparison of two systems—old and new institutions. The main premise of the Whites' study is the assumption of the social nature of art. They proceed from the premise that art, as part of a society, is organised according to certain principles and rules, implying "a stable network of ideas, customs and formal procedures, which together form a more or less pronounced social organisation with a recognized main goal—in this case it is the creation and recognition of works of art."[579]

The old institutional system, represented primarily by the institutions of the Academy and the Salon as the main exhibition event, worked with a limited circle of artists, although it encouraged the spread of art education. Nevertheless, the old system did not provide any further institutionalised prospects for the artist's life, that is, the educated artist did not have the opportunity to support his life through his activities due to the closeness of organisational structures and high barriers to entry. The Academy and other institutions, as the Whites note, themselves paved the way for change, as the focus was on works of art, that is, canvases, while social and organisational economic activities (including the careers of artists) were left unattended. The confrontation between canvases and

[577] Konstantine Sokolov and Yuri Osokin, "Art Market and Science of Art," Art and Culture Studies, 20, no. 2 (2017). In Russian.
[578] Harrison C. White and Cynthia A. White, *Canvases and Careers: Institutional Change in the French Painting World* (Centre for Sociology of Art, Saint Petersburg). *In Russian*.
[579] Ibid., 206.

quarries lies in the title of the book.[580] What were the reasons for the changes, other than the shortsightedness of the Academy?

Whites associated the transformation of the world of French painting with general changes in French society. First of all, Paris in the second half of the nineteenth century became the cultural centre of Europe. This is manifested in the fact that the capital's art dealers have clients around the world, the number of artists who come to study has increased, prices for French art were kept at a high level, and, finally, the influence of French culture as a whole on the language of art criticism increased.[581] Along with art, more and more segments of the population became interested, as it became accessible, including to the so-called middle class. Changes affected both the style and content of art: historical canvases were losing popularity, since the petty bourgeoisie needed small canvases to satisfy their need for art: their living rooms and bedrooms were not adapted for painting of the academic period.

The centralised official grading system has been replaced by a “merchant-critic” system. Gone are the days of a few large personalised patrons who maintained a closed circle of authors. “There were enough potential buyers, and completely different ones, so that the situation should be considered more from the point of view of markets than individuals.”[582] The merchant-critic system took over the functions of the Salon and the Academy in a situation where the Academy could no longer cope with the huge number of artists. Merchants and critics, with their money and attention, accordingly organised an alternative system of hierarchies and recognition in the art world. The spread of mass media, where critics were actively printed, facilitated communication in the new situation. Critics began to be seen as full-fledged market players capable of influencing the situation: "Having reached this influential position, they could

[580] Ibid., vii
[581] Ibid., 102.
[582] Ibid., 120.

choose whether to become its heralds or its opponents, publicly interpreting the paintings in the light of their own very diverse views".[583] The new system made it possible to recognize artists and stylistic trends that under no circumstances would have been legitimate in the Academy, such as Impressionism, for example.

In their work, the Whites showed that the new system did not arise from scratch, since certain market relations existed before it, but their modernist version became possible only under certain circumstances. The market here is a consequence, that is, an institution that has arisen as a result of the inability of the former institutions to cope with the functions of maintaining and preserving life. The history of marketization proposed by the Whites is presented from the point of view of the art market, that is, as if economic logic in art as a whole was established along with the market. A slightly different story of the commercialization of art is offered by Paul Dimaggio in his study of the emergence of high culture in the United States using the example of Boston in the second half of the nineteenth century.[584]

The rise of Boston's urban elite toward the end of the nineteenth century meant that the high culture favoured by the elite was deliberately isolated from the commercially oriented low culture. To localise a special cultural space, representatives of the elite invented organisational forms of the non-profit sector, examples of which were the Boston Museum of Fine Arts (The Museum of Fine Arts) and the Boston Symphony Orchestra (The Boston Symphony Orchestra). The boards of trustees of these institutions included representatives of the elite, who regulated the functioning of the institutions and determined their policies. For members of the Boston elite, money did not appear to be a suitable barrier to access to culture to a certain extent. Culture and art on the other side of the market could not be bought, leading to a decommodification of visual art and music.

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[583] Ibid., 186.

[584] Paul DiMaggio, "Cultural Entrepreneurship in Nineteenth-Century Boston: The Creation of an Organizational Base for High Culture in America," *Media, Culture & Society* vol. 4, no. 1 (1982): 33-50.

Thus, unlike the Whites, who considered the wider population and their needs for art and thereby analysed the market structure, Dimaggio shows how the market structure was pushed out of the realm of high culture and localised in other boundaries (within the boundaries of mass culture).

Dimaggio's research example shows that the establishment of impersonal market mechanisms can be interpreted from the point of view of both producers and consumers. The introduction of market mechanisms is a consequence of other equally important changes that are more fundamental, but the market marks the space of culture and contributes to the construction of symbolic boundaries between high and low culture.

### *The price of the work of art*

One of the key elements of the market as an institutional system is a price. The main difference from the pre-market system, when the price was a certain reward for the work of the artist, in the new situation it begins to play a more significant role. This is not only a reward for certain work and skills, but in some cases a marker of success. Unlike other products, works of art are unique, and in this regard, the price is formed in a special way.

According to Raymonde Moulin, a feature of prices for works of art is their constructability as a result of social communications and transactions. The price is not determined by one single factor, which would be reduced to the costs of production, distribution and distribution of a product. However, the problem is not only that gallery owners and dealers deal with unique products, but also in the cultural or semantic component of the price. The price of art consists of many components. It is also important to keep in mind the aesthetic component, which, in the case of art, seems to take precedence over the economic motives and reasons for the actions of agents. In other words, the price entirely depends on the

specific social circumstances that made this or that object of art a commodity. The distinction between instrumental value and aesthetic value is key. The price of a work of art also depends on the segment of the art market.[585]

Pointing to the heterogeneity of the market, Raymonde Moulin identifies several segments, or submarkets. So, she singles out the market of recognized art (art classè), the market of mass art and the modern international art market.[586] On the market of recognized art, those works of art are presented, the authors of which have already entered the canon of history and art criticism, and their aesthetic value is beyond doubt. The number of works, as Moulin notes, circulating on the market is theoretically limited and maintained at a certain level for quite a long time. Here, one of the key pricing mechanisms is attribution, that is, the procedure for recognizing the authorship of a particular work. The recognition of authorship is thus seen as establishing the truth in history and has market implications. Thus, it is for the market of recognized art that issues of provenance and originality are the key pricing factors.[587]

The market for mass art, according to Moulin, mimics the market for established art. Mass art is that art that has not made it into history or is sometimes denied the status of art altogether. However, despite their dubious status, from the point of view of the expert community, the objects of this art can "satisfy the demand for art from potential buyers."[588]

The boundary between these markets is periodically blurred. Moulin cites the 1980s as an example, when there was a market euphoria in the art world. Museums, as she notes, were not ready for the prices that were set on the markets for rare works of recognized masters. The budgets of museums were sometimes equal to the cost of one work, and they could not take part in the auction on an

[585] Raymonde Moulin, "The Construction of Art Values," *International Sociology* vol. 9, no. 1 (1994): 5-12.
[586] Ibid., 5-6.
[587] Ibid., 6.
[588] Ibid., 5.

equal basis with other agents. Subsequently, this led to the fact that museums, acting both as actors in the market and as expert institutions in the field of art history, turned their attention to minor authors who were contemporaries of recognized masters, but during their lifetime their works circulated in the mass art market. In other words, as Nail Farkhatdinov states, the market situation of the 1980s led to the "discovery," that is, the recognition of new authors. Of course, along with this, the prices for the works of these authors have also changed.[589]

The contemporary art market in many things differs from the subcategories, which Raymonde Moulin divided the art market into.[590] On the one hand, this market circulates the works of contemporary authors, and in this it is closer to the mass art market. On the other hand, works of art belong to artists recognized by the expert community. This circumstance brings this type of market closer to the market of recognized masters. Besides, the contemporary art market differs from the art classè in the mechanisms by which a work gets recognition: while in one case it is based on history and already has some kind of genealogy, then in the case of contemporary art, recognition and success arise in a different way. Until recently, galleries and curators have played a key role in pricing in the contemporary art market. However, as we see with Beeple, community and social media are beginning to replace them as gatekeepers in the contemporary art market.

### *The NFT art market actors*

[589] Nail Farkhatdinov, "Art as a Commodity: Old and New Research Perspectives," Economic Sociology 12, no. 3 (2011): 127-144. In Russian.
[590] Ibid., 8.

Large institutions like auction houses stake out the position, jumping into this new field and thanks to the combination of factors—the reputable auction house and the new NFT art, a highly popular topic, made possible such apogee price—$69.3 million for *Everydays*: *The First 5,000 Days*. In comparison, a consigned by Phillips programmatic NFT from Canadian artist Mad Dog Jones reached only $4.1 million—several times lower than the very first NFT sold on the auction of the three main auction houses. Significantly, *The First 5,000 Days* are by now the most expensive NFT work.[591] (Out of the main art fairs, Art Basel reacted to the new context the first and in 2021, provided its market for the new NFT art.)

The more conservative and limited in resources museums also take this first step, and depending on the position of their museum community articulate this either in terms of resource restrictions of the Covid-time like Uffizi Gallery or like the Hermitage motivate it like "a new chapter in the development of the art market," which would democratise the market making luxury more accessible, even though, as they say on the sidelines and in some sources, the real motivation behind this decision was the same as in the Uffizi case—to get money for the museum's budget.

Such pioneering steps of the large respectable institutions make their competitors act the same way to get acquainted with the technology and potentially capture a part of the market. So, Christie's sales were followed by Sotheby's and Phillip's auctions, and after the Hermitage and Uffizi projects, the wider audience saw the similar projects performed by other large museums: The British Museum and its Hokusai, Vienna's Leopold Museum and Egon Shiele, and the Vatican Museums (the last recently announced its first Metaverse exhibition launch).

The timeline of the last two-three years is evidence that the NFT art is gradually coming into the traditional art market. The fact is that the NFT

[591] NFT Art Market. ArtTactic Report. Part 1, *Artinvestment*, May 25, 2021, https://artinvestment.ru/invest/analytics/20210514_NFT2021.html. *In Russian*.

community, which started in the mid-2000s (then digital crafts and memes on blockchain for the first time appeared on blockchain marketplaces), in 2022 is gradually merging with the traditional art world.

The more grand museums announce minting, the wider audience starts to appreciate the NFT art. However, there are still very large lacunae that hinder the adoption by the pretty conservative market of these new technologies. In fact, there are no governmental regulators and at this moment all political statements regarding the cryptocurrencies might lead to a dead end—everything is changing very fast.[592] The Hermitage, for example, during their exhibition of NFT art, which followed the sale of the NFTs of works from their collection, "avoid[ed] all topics related to the price." If we read between the lines of official press-releases, we might apprehend that this is a careful way to stay out of the legal grey area and wait for regulators to emerge (and do not incur judgement that they get a percentage of artists' sales). Especially when the NFT copies of their masterpieces were sold not via the sequence of transactions in order to reach their Singapore-based partner Binance.

Speaking of the NFT art, we must say that by now the large institutions still treat it like digital art of any other format. So, for example, Anastasia Garnova, the curator of the first NFT exhibition in the Hermitage Museum, noticed speaking about the work with the provenance of digital objects, that at the moment, there are no major differences in comparison with other digital works of art: "they must be constantly transferred to fresh media," (p. 206) and are at risk

[592] The Russian government in February 2022, on the eve of the war, for example, couldn't find a consensus regarding the cryptocurrencies. The Central Bank then prepared a law draft to ban the circulation of cryptocurrencies, while the Ministry of Finance were in favor of making such operations through banks. Evgenia Chernyshova and Victoria Tyutina, "The Central Bank has Prepared a Draft to Ban Cryptocurrency and Proposed Fines," February 18, 2022, https://www.rbc.ru/finances/18/02/2022/620f75b69a7947762be3a633. In July 2022, the Ministry of Economic Development worked out the regulation of the NFT market and proposed to amend the Civil Code and the law "On Digital Financial Assets." Tatyana Isakova, Timofey Kornev, Ksenia Kulikova, "Searching the Appropriate Mode for the Token," *Kommersant*, 26 July, 2022, https://www.kommersant.ru/doc/5480480.

of the file loss—besides, there is a problem of the original. ("At some point, works will have to be reformatted, and they will no longer be 'originals'" (ibid.). Another unpleasant curiosity happened with Institute for Contemporary Art Miami, who during six months waited for the CryptoPunk that was stuck in escrow, because without the appraise by a professional appraiser from the insurance company they could not add this work to their collection.[593] The Hermitage exhibition also ran into legal difficulties. Since for provenance it should be indicated that the work of art was at this exhibition and ideally, when we talk about crypto art, it should come to the wallet of this cultural institution. However, for most cultural institutions, this is not possible —either this is not legally regulated, or it raises questions about who has access to this wallet (what would be if suddenly the technical specialists do not figure it out or the password will be lost?). After lengthy discussions with the Hermitage lawyers, they did not come to a unanimous decision, so the smart contract of each token was added to the official catalogue of the exhibition in order to at least somehow officially confirm that this work with this smart contract was at this exhibition, but de facto there was no mark about the exhibition in the smart contract itself.[594]

The next important step for the museums after the minting of NFT copies of their masterpieces and NFT exhibitions, would be development of a new exhibition space Metaverse. The Hermitage since 2020 works its NFT exhibition in Metaverse, the Vatican Museums are going to explore this way of interaction with the audience, and many other, though smaller players, galleries and museums from all parts of the planet enter this type of *venue* (italics mine). Interestingly, less prim (in comparison to its ever-rival Christie's) Sotheby's also opened its Metaverse in 2022. If we discard the idea of metavers as a virtual space that unites many sites under its roof and is a kindred social network, then their value is in the innovative form of interaction between visitors and artworks and ability to deliver

[593] Dugan, "How Museums Are Trying to Figure Out."
[594] From personal communication with the curators of Ethereal Aether (The Hermitage).

unique, personal experiences. Another interviewer, Vladimir Opredelenov who is responsible for digital transformation in the Pushkin Museum in Moscow (in the late 2010s, the Pushkin Museum opened an exhibit "89 Seconds Atomized") was very sceptical about such perspective, reasoning that separate worlds of virtual panoramas derogate the main idea behind Metaverse—the social media-like virtual space. At the moment there is no cross-chain decision which would have allowed moving from one virtual space to another with your blockchain assets. And according to Opredelenov, it is mostly marketing.[595]

Continuing the meditation on the actors of the market and the position they would occupy in the new environment, it is worth mentioning the art consultant, although their role in this process: (a) is still far from being determined, since only a few years have passed and the tastes of the community are still taking shape, and (b) this new technology, in theory, should have reduced the number of intermediaries—in fact, rather, the market will grow and develop new branches. Along with blue-chip and traditional art dealers, there will be advisers who will help you choose and purchase art on the blockchain. Interviewed for this work art dealer Tatiana Stiskina says that there is a particular social distinction between those who prefer the traditional or blue-chip art and the contemporary. She feels that NFTs with their intrinsic aesthetic values will form around it a separate circle (p. 234), and of course, entering into such a circle implies the help of an adviser. Besides, according to her, since the art on blockchain still exists in the grey zone, signing a contract would be the best option (p. 235). There are multiple cases of NFT forgeries[596] and it debunks the common

[595] "If I have a real asset and not some digital object, I can take it and bring it to another gallery, and everything's fine. Right now, there's no maturity; it's the Wild West and nothing is really clear …" (pp. 219-221). The position of the Moscow museum is such: they did not choose Decentraland because of its low quality graphics and they didn't find the right technical architect or site to meet the museum's potential requirements.

[596] Alexander Salnikov, founder of the Rarible NFT marketplace, speaking about the difficulties with copying digital works says: "Technically, anyone can create an NFT with any image, just like anyone can create a copy of a Gucci handbag." A fake from the original is distinguished using the address of the crypto wallet from which the collection was created

myth that an NFT can't be forged. In practice, any user can copy an NFT file and create a new token: the authenticity of a specific token is the artist and the NFT community. And the technological decision that would check an NFT across the marketplaces and other storages, which is expensive, is only being engineered.[597]

The reasons why artists, who never before were a part of the digital art community, turn their attention to NFT range from an obligatory performance in which they must consolidate their positions in a new field and exploring an interesting and enriching field of a new medium to searching for the economic liberation these technologies give—potentially abolishing practices of legal agreements like *droit de suite*.

Besides, this new medium generated a totally new form of ownership—so-called fractional ownership. The implementation of this idea still faces great limitations: it should be either reflection on the medium side of this art—as in the case of Eve Sussman's fractional works; or as in the case of start-ups that provide tokenization of the blue-chip art, raise a series questions how to regulate how to store the "divided" art, who pays for that storage and who pays the transaction costs.

A very significant characteristic of the current stage of the presence of crypto-art on the market is, in the words of Sebastian Fahey, CEO of Sotheby's Europe, that "the art and crypto spaces still are in the crossover process."[598] The process can be apprehended in terms close to those the Whites use for describing the processes between the French Academy and other institutions—predominantly, market and DiMaggio in his inquiry of the Boston elites. In the

(before creating an NFT, the author needs to create a wallet). And, thus, only a knowledgeable person can identify the scammer. "If you know the address of the real collection, you won't confuse it, " Salnikov says. "The problem is that there is no automatic way to check these addresses yet." Varvara Selizarova, "How a Russian Startup to Detect NFT Fakes Raised $11 Million from an Investor from Google," *Forbes*, August 1, 2022, https://www.forbes.ru/svoi-biznes/473081-kak-startap-rossian-po-vyavleniu-nft-poddelok-privlek-11-mln-ot-investora-google. *In Russian*.

[597] Ibid.

[598] Schneider, "Why NFTs are Just the Latest."

case of the crypto art and the fine art worlds, the following numbers are indicative: according to the ArtTactic Report (2021), the three largest auction houses occupied 74% of the market with just five sales.[599] Stiskina, a person from the traditional art world, just states that the NFT community from the perspective of the traditional art world, are overrated. According to her, there are CryptoPunks ("the biggest and most significant," p. 235) and "the rest is all for the crypto community and largely about making NFTs for the sake of making NFTs" (ibid.). Lopez, an art historian and artist, mentioned that the NFT community generally exists outside the artistic world—and these worlds hardly intersect (p. 239).

The rest of 26% of the market hold the blockchain markets and galleries—Nifty Gateway, Superrare, Foundation, Makersplace, and Known.[600] And the customers there are the crypto enthusiasts and their followers. Significantly, even the most expensive NFT by Beeple was purchased by a crypto investor.

Speaking of the crossover process, I fail not to mention the recent news: Christie's launched its own NFT marketplace called Christie's 3.0 that would help the company to make trading and payment more transparent. The platform, as follows from its website, should create a completely autonomous channel for the sale of art on the blockchain. The platform will have built-in options for taxation and compliance.[601] This begs the conclusion: was this decision dictated by the fact that a completely digital sales channel bypassing auctions suits this art format? Or, when making this decision, it was also taken into account that the audiences of the two branches of art are so different and the auction house just wanted to build the most convenient environment, presenting it as a good PR move?

In a world of unsettled values, any decisive step, which large institutions always take with extreme caution, can be called a PR move, since at a certain point in time no one has the necessary amount of information for any qualitative

[599] Denis Belkevich, NFT Art Market. ArtTactic Report. Part 1, *Artinvestment*, May 25, 2021, https://artinvestment.ru/invest/analytics/20210514_NFT2021.html. *In Russian*.
[600] Belkevich, NFT Art Market.
[601] Christie's 3.0, https://nft.christies.com.

forecast. And even more so when it comes to the art market with its shadow side, conservative orders, chaotic nature and extremely volatile essence. So, slightly clumsy steps taken by museums to tokenize masterpieces and try on some technologies—no matter NFT versions of their work or metaverses—were called by some of my respondents—PR and marketing.[602]

For example, regarding AI attribution, the process is very slow and hampered by established and conservative institutions uninterested in challenging long-standing attributions, however dubious they may be, in spite of the real advantages this technology can bring to the industry. Undoubtedly the museums, which don't have enough money, prefer not to risk their reputation and not review all questionable works—they would rather individually get rid of Belltarachis in theirs collections than to take drastic steps of AI verification and AI attribution, and the New Rembrandt will simply remain eye-catching headlines.

However, the new digital art that exists on the blockchain is changing the industry from the inside, institutions—be it auction houses or museums —simply absorb and transform the experience of the crypto community: they use ready-made solutions, or in extreme cases, they wait for the necessary updates, and technologies to appear. And unlike the expensive AI attribution, which potentially costs money and its use can entail indelible reputational risks if the authenticity of their works will be debunked, art on the blockchain—despite relevant risks, promises much more: it is about attracting a new and often young audience, enabling a new form of interaction with the audience, and simply it means entering a new market—which is a strong argument. And getting closer to the topic of this thesis, art on the blockchain makes it much easier to work with provenance for specialists and researchers, although it still remains in the mode of working out and simplifying data for ordinary users. And even if in the case of museums, such a step as well fraught with a burden with regulators, however,

[602] See Appendix, Stiskina on p. 234 and Opredelenov on p. 219.

most likely this market will be legally formalised within a dozen years. At least, such a prognosis is shared by most people within the industry.

## Conclusion

What is the theoretical foundation of today's art and culture? If we have lost ideologies and abandoned both tough positions and speculative postmodernism playfulness? The most common answer that the Western civilization gives to these questions is that modern aesthetics and cultural codes are based on this subtle concept of metamodernism. As the co-editor of the influential online music publication *The Quietus* and of the modern art theoretician Luke Turner writes in *The Metamodernist Manifesto*[603] (2011): "The new technology enables the simultaneous experience and enactment of events from a multiplicity of positions. Far from signalling its demise, these emergent networks facilitate the democratisation of history, illuminating the forking paths along which its grand narratives may navigate the here and now."

A similar technological rebirth is now experiencing the concept of provenance. In my work I overviewed the couple of centuries of provenance in art history—presenting it twofold: giving forgeries and falsification narratives and the main plots of technological and major historical changes in the field of provenance approaches. In my opinion, the very unfolding of the narrative from the Middle Ages and the Renaissance (which I captured additionally) to the present day shows that the type of crimes and fakes is changing, which inevitably leads to a change in understanding of the concepts of provenance and authenticity. Perhaps the difference between today and the past two centuries is equally significant as between the Middle Ages, when guilds and anonymity flourished, and the Renaissance, when art markets were formed, and the signature of the artist came to the fore and began to define market value. Today, the forgery of oil painting is fading into the past. Artists who counterfeit such art, from the second half of the twentieth century, pass into a legion of celebrities. Nowadays it is no

[603] METAMODERNIST // MANIFESTO, official website, http://www.metamodernism.org

longer so easy to forge a certificate of authenticity, at least, as people in the industry say, such cases are less and less.

The two previous major shifts in provenance approaches were considered to be driven by great wars. Such was the French Revolution and the following Napoleon wars, when Napoleon politicised art and as a consequence of some Enlightenment ideas “promoted art institutions and established state patronage procedures that would spread images throughout the country.” In addition, the subsequent restitution for the first time in European history raised a number of its own questions. The questions of the restitution of cultural property were again raised after the Second World War—and this is the next major milestone in the history of provenance. However, the modern watershed is much more difficult to comprehend, because it combines many different processes (which I left out of the brackets of my work) and, unlike the two previous ones, is based on the technological revolution that happened to us with the advent and development of the digital world. The provenance has been historically a field, where the human factor defines the results, and the digital world overcomes the subjectivity of the expert's judgments.

Started in the 1980s digitization of archives, directories and other sources into complex online databases was the first harbinger. However, placing information online is not a qualitative change. It simply means that from then on access to information took less time. The following computer systematisation of disparate information, development of AI that recently began to be used for the authenticity research, such technologies as high-resolution scanning—alongside with the main: the blockchain and NFT—mark a transition to another qualitative level. However, this transition is still in the process. If digitalization made provenance research the lot of anonymous researchers who meticulously check numerous databases across each other, then blockchain could abolish them as such.

The diversity of cultural practices emerged in the last third of the twentieth century thanks to technological developments poses the question of a medium. To pinpoint this moment, I can mention the simple fact that photography and video art appeared in the curriculum of many art schools—which was naturally accompanied by discussions of their mediality, or how the new essence of the medium influences art in general.

And let the reasoning about the mediality of the blockchain remain outside the brackets of my work, I can't help but note a few points. First of all, the advent of blockchain is built into the already familiar dichotomy between art and mass culture, often taking their own place somewhere between circulation of objects which were either unique or existed in small editions and mass distribution of identical copies—as in the case of all collectibles, such as Crypto Punks or the Bored Apes Club[604]. As the same Lev Manovich notes[605], with the advent of different technological mediums, their very medium nature dictates economic and sociological differences in sizes of their respective audiences, in mechanisms of distribution, in conditions of perception and in payment scheme—and that is just the case of blockchain and NFTs—when we are in the middle of the process of adoption the new technology to the market conditions and procedures, to the regulators developing new rules.

In the mid-2010s the Internet community began to create various marketplaces and auctions selling digital art. However, it was later with the emergence of the non-fungible tokens, or NFTs in the beginning of the 2020s, the technology's appliance to the art field reached a turning point and right now accelerates with the technological novelties receiving full recognition and active expansion firstly thanks to the growing community of cryptoenthusiats and secondly to the interest of big cultural institutions. March 2021, when the

[604] Official website of the project Bored Apes Club: https://boredapeyachtclub.com/
[605] Lev Manovich, Post-media Aesthetics, 2001. http://manovich.net/index.php/projects/post-media-aesthetics

Christie's sold a collage by Beeple, for 42,329 Ether, at the time the cryptocurrency equivalent of $69.3 million, is considered a real landmark.

The changes that blockchain has brought to the field of provenance come down to two main things. Firstly, digital artists can attach stipulations (for example, royalties) to their piece of art that ensures they get some of the proceeds every time it gets resold, meaning they benefit if their work increases in value—and this can be considered a technical analogue of the *droit de suite* (resale right), a legal binding between the artist and buyers of his/her work that that protects artists' rights in most European countries.

Secondly, transactions in which ownership of something changes hands have usually depended on layers of middlemen to establish trust in the transaction, exchange contracts and ensure that money changes hands. Nowadays, with the data encrypted on blockchain, the number of middlemen and organisations that are usually involved in the validation of ownership (such as auction houses experts, museums' staff, art dealers, etc.) could decrease. However, not everything is so simple. These same actors of the art market are unlikely to want to be replaced by technology and instead they are trying to adjust or integrate the new technological decision into their old system. Moreover, and it is important to say, globally we are still living in the era of the centralised Internet and a number of different, let's say, reputation centres—large museums, institutes and well-known auction houses. And blockchain—as the technology implies—a decentralised Internet, Web 3.0., which is hardly achievable today, when, on the contrary, big regulators—states and banking systems are trying to embed the blockchain and the world of cryptocurrencies into the legal field.

Another bottleneck of this technology is that today there are quite a few different blockchains and many are already creating cross-chain decisions, but it takes time to come to some kind of uniform standard or interoperability. And living in conditions of "switching" between different chains or metaverses is hardly convenient. My interlocutors and experts whom I have read give different

estimates of the time period that blockchain technology needs to fully enter our lives. If we approximate, then, probably, it is 10–15 years. And of course, this will depend on the country, as the news of the last couple of years shows.

The next “stopper” is specific for the art market. The decentralised economy slightly fits the art market with its "conservative" rules of the game. And finally, while it's still a bubble—something even evangelicals like Beeple talk about. That is, even participating in the movement, agitating others for it, people usually understand. So, to sum up, this is a complex process that involves too many actors, institutions, legal aspects to be predicted in detail. On the other hand, the process of penetration of the blockchain (as well as other complex technologies like AI) has already been launched and it is unlikely that it will simply die out, but in what form and when this movement will finally take shape—given the current economic and political crisis in the world—it is difficult to say.

Today, it would appear that the blockchain and its creative possibilities for society are an apogee of the concept of metamodernism. This concept replaces the boundaries of familiar places with the boundaries of the infinite. In fact, this is the "destiny" of the metamodern man: to pursue endlessly receding horizons. The rise of the internet served only to further blur familiar boundaries, but they were still noticeably felt due to the languages, conflicting legal regulations, different monetary and banking systems, and so forth.

## Appendix. Interviews

### Daria Parfenenko, art critic, Associate Director, Representative Christie's Russia & CIS

*Since you worked at Christie's for so many years, can you share your experience with choosing works for auction?*

The selection process is conducted by specialists in a dedicated department at Christie's based on the current state of the market as well as the value and uniqueness of the works on offer.

*What does the standard procedure for verifying the provenance of each art object look like?*

We study documentation and photographies in the owner's possession. After that, we look for mentions of the work in exhibit catalogues, published books and journals, and in some cases refer to letters and diaries of the artists and collectors themselves. We also check them against a database of stolen works and works marked for restitution.

*Are there any nuances in your practice that distinguish Christie's from other auction houses?*

No; the largest auction houses all operate based on similar procedures.

*Can you tell me about a few interesting or special cases connected to the provenance of works sold by Christie's?*

We sometimes receive objects with unique provenance stories: it was a great honour to present bracelets belonging to Marie Antoinette at an auction in Geneva. Another auction where provenance played a significant role was the auction of jewellery belonging to the movie star Elizabeth Taylor. There are also objects which passed through the hands of numerous notable collectors: for example, a Su Shi scroll[606] on which great figures of China recorded their stamps and notes.

*Christie's was one of the first auction houses to recognize the value of NFT art. In March 2021, news about the sale of a work by Beeple for $69 million transformed the world's relationship to the medium and permanently changed the market. Why do you think that this is only happening now, considering that media and digital art has been around for far longer than the past decade?*

Digital art came to the fore alongside the first computers, in the 1960s, but their capacity to make infinite copies of a file did not allow the art market to capitalise on this segment. With the appearance of non-fungible tokens, we gained the ability to make authorship (and intellectual property) of an image permanent. This was the impetus for the digital art market to develop.

*What do you think of NFTs? In your opinion, what are their advantages?*

In the digital field, there is an enormous number of works being created, and NFTs allow us to track the entire chain of provenance, down to the most recent owner. This is an art historian's dream: not a single blank or question mark! We can know the entire history of a work.

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[606] "Su Shi's Wood and Rock—One of The Most Important Chinese Artworks Ever Offered at Auction," Christie's (official website), August 30, 2018, https://www.christies.com/features/Su-Shi-Wood-and-Rock-to-be-sold-at-Christies-9338-3.aspx.

*Christie's is now regularly holding NFT art auctions. What is the difference between the verification processes for this field versus traditional art?*

NFTs make provenance verification much simpler: thanks to this technology, it takes just a few minutes to see the entire chain of purchases, and there are no complications with confirming authorship.

*In the future, do you think that it will be possible to apply blockchain technologies beyond the realm of media art: to certify more traditional art objects like paintings, sculptures and jewellery?*

It’s hard to say how popular that will be, but I think that it is a convenient way to certify various art objects, and that it will find an application outside the digital world as well.

**Anastasia Garnova, art critic, a member of the Hermitage's Department of Contemporary Art, curator of the first NFT exhibition in the State Hermitage Museum.**

*Could you share the standard procedure for verifying the provenance of art objects destined for the Hermitage's collection or your exhibits?*

I can only tell you about contemporary art exhibits: we typically work with artists who are still alive and with whom we can communicate, so the question remains about provenance. In cases where the works are provided by other museums or galleries, they typically handle the verification process, but we may also do it at the Hermitage. I may be mistaken, but if I understand the procedure correctly, the conservators are responsible for it.

*Are there any interesting cases or discoveries that you can share from your or your colleagues' experience?*

These discoveries typically occur in "historical departments." For instance, a recent one was that Babat, a mummified priest, was a man and not a woman. We discovered this with an MRI.[607] If there had been blockchain in Ancient Egypt, this never would have happened! :)

*When did you first encounter the blockchain? What impact do you think it might have on art as a whole? Could you share some important examples that you think are worth mentioning?*

[607] https://nplus1.ru/news/2017/10/04/Hermitage-mummies.

I heard about it back in 2018, but I only started researching and understanding it in 2021, when we decided to organise our exhibit. It seems that this has enormous potential for digital art, which is becoming more and more popular and entering into modern visual culture. For example, we discovered so many new artists this year that the museum world had not known before, like Krista Kim, Hakatao and Beeple.

*Do you see any potential for blockchain technologies in museums? If so, what might that look like? Do you think there are any interesting international examples?*

I think there is! Especially in the field of provenance, once some time passes and more and more digital art begins entering museum collections.

*What prompted the Hermitage to become the first museum to devote an entire exhibit to NFT art? What sparked this interest? What was your starting point?*

The Hermitage has historically taken an interest in contemporary art, and its collection has grown with its addition. That's why we, as the contemporary art department, are always interested in analyzing and exhibiting the most exciting developments in the field: in 2021, that was crypto art.

*How does your work with the provenance of digital art differ from your work with traditional art objects? What challenges might you face? How do you think this might look in the future?*

Actually, at the level of the artists we work with, there are not any major differences. But I think that difficulties might arise in these cases: (1) Storage or obsolescence of museum storage solutions (a general problem for digital art that

must be constantly transferred to fresh media). At some point, works will have to be reformatted, and they will no longer be "originals." Or (2) if the source file is lost, then what will be considered the original when it is restored? Perhaps the blockchain can help us in this regard.

*What do you think is in store for NFT art in the future? What is the potential for growth, in your opinion?*

I think that it will simply become yet another legitimised form of art among the community, and a system will be born out of the chaos (as museums and curators begin to understand it).

**Vladimir Opredelenov,[608] digital transformation, security and innovation specialist for museums and cultural and scientific institutions; Deputy Director for Digital Development at the State Pushkin Museum of Fine Arts**

*In late 2017–early 2018, the Pushkin Museum opened an exhibit called "89 Seconds Atomized." This fractional NFT by Eve Sussmann is mentioned as one of the first cases of blockchain's use in art in textbooks published in the United States and around the world. What do you think about this? What is the Pushkin Museum's position on this?*

It works for us.

*How exactly does it work? Who is responsible for it? What advantages do you see right now?*

Are you asking in a technical sense or a conceptual one?

*Conceptual. What I'm wondering is whether you're applying it now in order to achieve some sort of result in the future, or do you already see some of those effects now? Are there changes or interesting characteristics you have noticed as a result of this in relation to provenance?*

Let's put it this way. The first thing is that blockchain technology and the fact that it was used by artists is more like marketing, in my opinion. As a result, I would rather not take this phenomenon seriously. You've got to separate them out. The fact that my colleagues have tried things on various platforms that didn't "take off" is a different matter. And at some point, in 2018, 2019 and especially 2020,

[608] After the February 2022 events on the Russian-Ukrainian border, Vladimir Opredelenov resigned from his post at the Pushkin Museum.

these NFT art startups… They come and go every single week. So even I stopped following them after a point. Over the last year, we've gotten messages every single week from companies or crypto enthusiasts that want to launch an NFT with the museum. A crazy amount. People came to us, the Tretyakov and the Hermitage, and they couldn't care less about us…

*As a matter of fact, I did that first exhibit with D.Ozerkov on NFTs that happened in November.*

The question for that exhibit is also about how… Look, when people tell me that they made an NFT exhibit, it's one thing if it's virtual, but if it's… and you still have to test it from a technology perspective, see whether it's the real thing or not. In the sense that… Especially when they just show them on TVs and so on in a physical space and say, "This is NFT art," you can't possibly think of a bigger bait and switch. It's classical computer, digital, media, video art—whatever you want, but it has no relationship to NFTs, since if you put something on a flash drive and call it an NFT, yet it can live just fine without all of that fuss, that means that it's a substitution of concepts. In that sense, this horrifying, total lack of digital literacy creates the possibility for speculation about this.

So among the blockchain ideas that I think are actually important and why the technology might actually be a breakthrough for us (as institutes of memory)... Because the blockchain can potentially serve as an opportunity to create digital originals or an authentic record of digital twins. Insofar as we can say that at the moment of an object's registration on the blockchain—whether it is an original and created only in digital form, an element of a hybrid object that exists in both realms (especially applicable to performances, iterative installations and so on) or a digital twin created through the digitization of an object (a "digital twin" is a fairly loose term, for which we are still working out the conceptual details; there

are parameters of credibility and colour accuracy, for instance)... But something shot on a smartphone, or just a picture made who-knows-how… To call that a digital twin, like plenty of people in retail are doing, is, of course, a big stretch.

So potentially, blockchain platforms could give us the opportunity to create depositories similar to what we do with real art. Meaning archives of digital heritage. Our digital heritage is constantly growing and a part of the museum community has waded into this (including the Pushkin Museum, which released a protocol for acquiring film, media and digital art. For us, this step was important because it presumes a lack of opportunities for that object's substitution or replacement of any single element. In essence, it isn't even a question of provenance: people introduce provenance at the early stages, but its subsequent life, rights and impossibility of replacing elements, especially in digital twins, is an important aspect. For instance, in literature, the replacement of a single preposition or a few words every hundred pages could completely and radically change the meaning of what's going on. And the same applies to the historical documents being created right now. This is a big question.

But in Russia, there isn't a single blockchain ecosystem. And today, the question of adding any data to blockchain platforms isn't up for discussion. For Russian museums, at least. Well, actually, for museums around the world. Because actually, IPFS hosting[609] is available for Western museums, and American museums in particular. But it's still unclear as to how to work with it in terms of managing objects and identifying a zone for your own work. In our legal environment, it's not clear at all how to do this or implement it, because you need

[609] The InterPlanetary File System (IPFS) is a protocol and peer-to-peer network for storing and sharing data in a distributed file system. IPFS (official website), https://ipfs.io. The protocol is promoted as a way to overcome limitations of the centralised world wide web. Andrew Hayward, "How to Use IPFS: The Backbone of Web3," *Decrypt*, August 5, 2021, https://decrypt.co/resources/how-to-use-ipfs-the-backbone-of-web3.

unbelievable computing power for encryption of a given object. But let's say that when secret information ends up on a blog, it can expand in size anywhere from 1.5–2 times up to 200–300 times. That's why this phenomenon is called, and I'll use quotes here, "NFT art"... Well, there's probably 0.5% art there, some sort of creative self-expression by some number of people using NFT technologies, probably related to the alteration of data, but everything else is just traditional computer art put into a token. But they're all so small simply because it's too hard to code or costs too much. In other words, you either can't re-encode the blockchain onto real large-format media today or it would cost an incredible amount of money that nobody is willing to spend yet.

*What do you think the prospects are for these technologies being used in museums? 5 years? 10 years? 2 years?*

For the flagship museums and a really limited number of sites, I think we're looking at a 5-year timeline. For these things to settle… Essentially, I'm still building our internal digital infrastructure (we can't call it an ecosystem yet) of a hybrid art museum. We're in talks with the biggest companies offering cloud storage solutions in Russia, including cloud computing. But none of these companies will have an out-of-the-box solution, aside from the usual "here's our server capacity, here's our processing power, here's how much memory and storage we have, here's how much we can store on the blockchain…" Until this is "super smart" and has some benefit for the market, we can't work with it.

The next step (which I don't know if we will ever take or not) is when the main node or first element of the blocks is contained within our system, or we are part of a global, international system. But for that, the state has to grow into it: it's an infrastructure project that one institution with all of its… essentially blockchain

technology is developing because there are a lot of enthusiasts, miners and people who have connected their own computers…

*The community of...*

Yes. Really, it's the people who are ready to share their computers for processing. As long as there weren't enough of them, nobody believed in it, but as soon as there were enough of them, it could work. But a network of 100 computers is hardly even a precursor to the blockchain. There has to be thousands, even millions in the system for it to be truly sustainable. Here's my answer. I can't say...

*Who among your foreign museum colleagues is working most actively in this field? Have you spoken with anyone about this at any museum conferences or conventions?*

We signed and updated a manifesto several years ago with the Victoria & Albert Museum on the preservation of cultural heritage, including through digital copies (by creating copies in general, with digital ones among them). But for the past several years, I haven't seen a single informed conference (aside from the hype surrounding art) about the preservation of cultural heritage using the blockchain, approaches to this and so on. There are UNESCO programs about working with information for all, and people are working on them who don't really understand digital. There aren't that many techie young people who would have worked specifically on heritage because there's not that much money here... So it's hard for me to answer. Maybe I missed something or didn't notice.

*Well, I saw that there were several initiatives at the British Museum. They tried, but it hasn't amounted to anything yet.*

But they did this through partners. I mean that it looks more like their own initiative. I haven't seen an institution initiate something on their own, but I see when Microsoft or Google come to an institution and say, "Let's do something like this and put your name and our name on it." I don't see any concepts or philosophies coming from the museums. But there are some individual projects done together with vendors. These are key cases, but they don't grow into anything in the end. Currently, they don't. But our experience is growing.

*Stepping away from the digital and media art point of view and talking about traditional art, provenance and the problem of provenance in art, do you think that there is any sense in using blockchain technologies in tracking that provenance as a kind of international museum and art history database, or is that a utopian idea?*

What we developed with the CEO of dotART did, in fact, launch. In the sense that when you register a .art domain today, it allows you to clearly indicate whether it's just a domain or actually a digital certificate of some work of art, be it digital or a twin of a real one. And in that sense, it's a kind of notarized document or certificate of an object. It's a different question as to whether identification, meaning an unambiguous link between the object and the certificate, is the most important element for physical objects. But this is a problem even for traditional provenance: the piece of paper for an object could be authentic, but there's no guarantee that the object itself is.

*Right, like the Titian in the Museo del Prado. Markova had a case like that as well.*

Yes. This is the key problem, and rapid encryption technologies—say, the biometrics of objects—are not widely developed right now. I mean, we have

approaches and methods, but they haven't hit the market in the form of a simple device, like a POS terminal or a lens for your smartphone, that could analyse these biometrics. But I think that as the market for biometrics develops, these devices will start showing up for specific types of objects.

*The Metropolitan Museum in 2019 did a workshop on this with Microsoft.*[610] *Incidentally, about how they could move in that direction, what technologies there are…*

We did that research ten years ago.

*The Met just has better PR and communications…*

I understand that any PR by Microsoft works well. There's a different problem: mass production of these devices has yet to begin. But there's no comparison between scanning a person's iris or blood vessels in their palm or finger and scanning an entire art object. It's another matter entirely that we don't have a unified registry of global cultural heritage, and that we've yet to come to an agreement on that. Until we come to that agreement, even dotART or any other initiative connected to a single authorised registry, to which any institution could add its own marker data… But then we have the question of the informational security of such a resource, because it has to be open on the one hand, and no less protected than the banking or even defence sectors on the other. And again, this is a huge amount of money and infrastructure. Overall, like with any other information security question that concerns the real and digital worlds it's a matter of organisation. It's very similar to the question of certificates for works of art. What difference does it make as to what those certificates are attached to? We know how to make them.

[610] The Met x Microsoft x MIT, https://www.metmuseum.org/about-the-met/policies-and-documents/open-access/met-microsoft-mit.

This is about physical objects. Digital objects are a little easier. But for that, we really do need blockchain platforms and advanced tracking and rights management systems. These systems are starting to appear, but again, the question is whether all governments are ready to approve these systems for verification. For instance, YouTube checks for copyright violations with music, pictures and video clips. If every search system would check, ban or automatically notify you that you have illegally used a given digital object or fragment, then it's theoretically a complete system. This could be a system for a trusted internet. But this would require a complete reconfiguration of the logic of how the internet works as a whole and institutions consciously transitioning to the semantic web and similar things.

*In your opinion, are there any interesting initiatives or startups working in this field and developing quality products, rather than capitalising on the hype surrounding trends?*

I think this is happening more within public institutions like Europeana[611] and others: communities of professionals and experts that work with this. You wouldn't dare call them "startups." A startup is largely focused toward sustainability and solving some real pain point, but it's still a limited number of people who are producing an important product and somehow monetizing it through customers, social stature, government support or grants. But in the field we're discussing, I don't see an overall trend, because nobody sees… I mean that big business doesn't see opportunities for monetization, which means that they don't invest in startups like these.

[611] Europeana is a web resource created by the European Union containing digitised cultural heritage collections of more than 3,000 institutions across Europe. https://www.europeana.eu/en/about-us.

*Right, this has to come from either government support or a philanthropist…*

Yes, which means that it's a question for major public organisations and institutions who can work on grants. Right now, I've stopped my research on this, because it's easy enough to find strong cases of working with vendors; they always offer them up themselves. I don't see any small cases. But some museums don't care; they just wanted to survive the last two years based on that hype. I mean that everyone went online, wanting to master Zoom. And thank God. That's already good. As far as grants and support for this work in Europe and the United States… Basically, with our laws about foreign agents,[612] it's a fruitless exercise. For that reason, I haven't followed anything for the past eight years and haven't participated in a single project. We could only talk with our colleagues on a conceptual level and that's it. So I can't say anything here.

*I understand. Could you share your attitude toward the metaverse and how museums are beginning to build exhibits there, which means reaching a fairly large audience of millennials and even younger generations? Accounting for "clip-based thinking," Covid-restrictions or the constant presence of the digital world in their lives, this turns into a kind of familiar and everyday format. For them, museums as physical buildings become something more archaic than this virtual space.*

I don't know the studies you're basing this on. But I don't see this as widespread. Attendance at museums is returning to previous levels as soon as they become accessible. And all of these are restrictions due to Covid. That's the first part. The second: there is no museum attendance by children at all. And if that's not instilled

[612] Russian law requires organisations that receive Western funding to add the label "foreign agent," and this imposes a number of restrictions on them.

by parents as a kind of basic cultural foundation, or if an institution doesn't bring them to a museum, then it doesn't happen. People coming to the museum as adults is a random occurrence. And that happens after their student years, or when it's trendy. So as a result, I can't really see a metaverse consumer in that sense. Or it has to be a kind of game- or quest-based experience.

On the other hand, if we're talking about metaverses from the perspective of their replacing current social networks, then do we need to have the same kind of representation there as in the early days of Facebook or Instagram? But do we even need to create representation there? If you look at the topics at museum conferences from the past 10-15 years, people really discussed whether museums had to be present on Facebook and whether we would work towards that. Today, the question seems laughable. But based on the existence of those presences, then it's definitely necessary as an informational resource, at the very least, to communicate with our audience.

From the perspective of creating our own metaverses… Let's clarify the term. A metaverse is still a visual 3D space…

*I don't think it's even about creation… People say that it's about the purchase of meta territory, then recreating…*

There's Decentraland and the defunct Facebook Metaverse project. Everything else is for gamers.

*Yes, the main one is Decentraland…*

Yes, and it's a fairly expensive exercise. Investing in it while Facebook is still around doesn't make sense.

*Well, there are startups like Spatial*[613] *right now, where the Hermitage exhibit took place, because it was far less expensive than buying something or renting Decentraland, but that's a bit of a different case. However, they're currently specialising in this, and they now have space for galleries, museums and special events.*

I understand, but which of them survives is a big question. Investing in any of these fields before major corporations get involved would be strange. Especially because it requires cryptoregistration. Meaning when it comes in the form of private investment, but the account that could do something demands some kind of…

*Actually, Spatial doesn't ask for that. Decentraland does, but Spatial doesn't.*

I mean that if you really need to make a serious move, specifically as an institution, then I can't officially register in either place.

*Right, especially considering recent news in Russia.*

Through intermediaries, I hope you understand. Even now… There's no official representation of the Hermitage. Not legally. Legally is one thing, but if it's not possible legally, then you can't spend money there. Outside investors or enthusiasts can play if they're in areas that allow them to do so. On a large scale, it isn't recognized yet. We absolutely have to keep an eye on that, though.

[613] https://spatial.io.

The creation of our own metaverses is a big question. And what do we even understand the term to be? Those hundreds of virtual panoramas that we already have, the 3D products we've made—if you combine them all into a single interface, then you could call that a metaverse. The quasi-metaverse of the Pushkin Museum. But that would mostly be marketing. The interesting part is how we will be able to move between them. The metaverse presumes that every single digital … with a single account would let you move from one space to another. Essentially, you could go from Decentraland to another space with the same registration. We don't have that now, and there's no serious way of approaching it, so if your avatar changes from place to place and it's not a unified space for communication…

*And you log in, appear and connect your wallet every single time.*

That's right. So what's the point? Let's say I buy a bag here that's tied to an NFT, then go to another space and it stays with me. Maybe it's with me in my wallet, but the question is how to show it in a different place.

*Well, it's the same as with all the protocols today, like NEAR, Ethereum and others… Right now, the question is when these cross-chains and integrations will start working normally…*

That's what I'm talking about. If I have a real asset and not some digital object, I can take it and bring it to another gallery, and everything's fine. Right now, there's no maturity; it's the Wild West and nothing is really clear, in the sense that I might create my digital asset here and it could be popular in one place but not in another. It's just like how you can't take currency from some game with tanks into another one, like The Sims. They just can't be combined on a technical level. But the idea of the metaverse is that I can live a kind of social life and take my property from

one place to another. And this will attract masses of people. All of this tokenization within… But that's the question. It would be strange for every museum to create their own, especially since it costs a lot of money. But this is also about the blockchain platform, because the metaverse can't exist anywhere but on the blockchain. Otherwise, you can't own anything and you can't use anything that you've built. Until we have a firm basis in the blockchain, it's really hard to talk about the metaverse.

*Is there an NFT project or blockchain art that you find interesting, or whose concept and implementation you liked?*

Out of everything popular right now, the digital works sold on OpenSea or Rarible? Nothing, if I'm being honest. In film, media and digital art, there are things that I like. But until there's another Bill Viola or an artist of that level in this field, I won't get hooked. I'm ready to recognize a creator in every… For me, any great work is art, and right now it can absolutely be digital. Film and media art are included. But I haven't seen things at a level that would interest me yet. There are interesting concepts and ideas. I prefer things connected to realistic visualisations of worlds with fantastical architecture, the buildings of Attica, statements like that… But they're typically secondary to the original works from which they originate. You can tell.

*What about* 89 Seconds Atomized*, which is simply a different work that was moved onto the blockchain as a concept?*

It's hard for me to react to them as independent cultural works. Though these are things that a person can like or not. The second issue is that there's not a place where you can see all of this without visual noise, calmly and on permanent display. The exhibit in the Hermitage was probably one of the few things, the few

spaces where you could make a kind of selective curatorial choice. But again, showing it in a virtual space kills the majority of any potential impression related to the geometry around you and the impossibility of full immersion. It's a question of what kind of screen I have and how I'm looking at it. It's an issue of not yet having good enough VR headsets that wouldn't cause perceptual problems. On the whole, the question of perceiving works of art in these metaverses has yet to be addressed. That's what I have to say.

*How much time do you think it will take before all of this reaches the point of being really exciting?*

5-7 years. The futurists whom I study predict something in that range.

**Sergei Lukashkin, Director for Digital Transformation Projects at VTB, one of the largest Russian banks**

*What do you think about the use of blockchain to track provenance outside of the digital sector, but perhaps in the physical world, the banking sector or in art?*

Theoretically, there is the idea of using the blockchain for depositories that hold more than the international system of data on the depository. Everything with the blockchain is actually very simple. If you need a system of trusted interactions in an untrustworthy environment, then you have to look at blockchain as an option. The second thing is that participants in this system have to occupy various roles, of which there are at least three. That means it's not just buyer and seller, but buyer, seller and notary, for instance. You've got your buyer, your seller, your logistics specialist, your creditor—and now you have a logistics system. And there has to be a lot of these participants. The system can scale. We connect two participants in their respective roles in a linear fashion.

However, several obvious problems come up right away. The first is that the digital and physical worlds are not well connected: without special implements, there's no way to tie a digital object to a physical one. You might be able to connect them on your phone, but that's because your phone is your door into the digital world. You can pair devices, or leave tags in space or integrate them into documents. But they are not unique identifiers. A unique identifier on the border between the digital and real worlds is an RFID[614] tag sewn into your clothing. You throw your clothes in a box and it immediately recognizes you. There are even more complicated technical solutions, like a bag with NFC functions[615] that you can use for payments. But a solution like this doesn't give you a reciprocal

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identifier that the bag is a particular one, and not just any bag. Someone could come and cut the RFID tag out of your pants and put it into a bag. When the buyer goes to pay, the system can get tripped up: it will be both a pair of pants and a bag.

The second problem is that it's hard for all the participants to come to an agreement about the development of the system. It's not just about development and global changes; the participants, as a rule, can't immediately agree even on more individual problems. Typically, the system only develops when there is a single purposeful vector of growth, which is created by one or several of the participants; everyone else falls in line. What am I trying to say? That the system is simultaneously centralised and decentralised. Rather, that there's a kind of illusion of decentralisation. Technically, there are decentralised processes, but in reality, someone owns it, or certain powers are backing a particular trend. For instance, take Ethereum: how long have they been promising to change their consensus to proof-of-stake? It might seem like an entirely technical matter. But it doesn't work at all. The system is hard to recreate, and the participants are a different system entirely.

*Still, what if we think about the cross-chain solutions that everyone is talking about and trying to actively develop?*

You have to understand that current blockchain solutions are meant to help people wor. It's clear that various interactions and combinations of these systems are ideally part of some sort of grey-area activity. Take the owner of a large company who has decided to sell electric cars for cryptocurrency will be guided by a need for liquidity. He might need cash to bribe someone, and to do so, he might decide to buy an NFT. In that sense, the entire blockchain idea is overshadowed by this bad image. There's always something fishy going on.

*Do you think it's just a matter of time and there's a point behind this technology?*

Yes, but it's just how people perceive it, unfortunately.

*How much time do you think it will take for people's perceptions to finally change and for it to turn into another important, complex technology used in everyday life?*

I think it's a generational question. Not in the sense of generations as units of time, but the growth of a generation. I think that my children will use it. It will take hold somewhere.

*Let's return to provenance in art…*

Provenance is a tricky subject in and of itself. I mean, someone wrote something at some point, and then some expert added to it. The genealogy of a particular painting or vase is made up of these expert assessments. That means that the question here is whether you want that assessment to be recorded somewhere so that everyone could access it. Okay: that means that this system is a registry of distributed repositories of knowledge entered by an expert. That means that all you can confirm is that a particular expert wrote that. You can't confirm what the painting is. A different matter is that you're coming up with a way to digitise a physical object that's so fancy that you can always trace the object's provenance through the digital copy. But that's expensive, because what museums actually do with a painting isn't just taking a scanner to it. They scan in various spectrums, using different methods and tools. This is expensive by itself. There are lots of layers. And yes, then you can use some machine learning algorithm to take the painting and say, "Go ahead, scan it." They'll scan it in three spectra. And it's

exactly the same painting. You can see that the strokes are exactly the same. It's a one-to-one match. Or that we can see the same internal defects, these micro-cracks, in a vase and they match up. It's a task of identification. You either store it and then identify data from experts, putting all the responsibility on the experts, or you do it this way. But then a simple question arises: should the system be decentralised?

*That is indeed a question. But now there are various provenance registries, each of them under the aegis of an institution: the Getty Institute or Carnegie Mellon, for instance. And the question stands: how do we put all of this together?*

Well, it's primarily a question of standards. Some solutions fit between the blockchain and a decentralised system, because both of them are ways of storing data; there are non-distributed databases, and that's it. You can take centralised databases that will synchronise somehow; they'll store everyone's data, and it won't be a blockchain, but data duplicated through synchronisation mechanisms. They exist, and are very simple, but there should be a single standard. You can make a distributed database. Basically, it will be distributed into clusters held by various participants. Technically, from a software perspective, this would be a different solution. But you can set all kinds of parameters, like the type of storage that will extract different kinds of data, but that's not the point here. The point is that it will all work in a single cloud right away—a cloud system. And people will maintain a server or pay for decentralised storage. For this, you still have to create some kind of system that will keep this registry in memory as a separate table where everything is recorded, and someone will understand it and will set up a separate process to verify it. And they'll tell you, "Come back tomorrow…"[616]

[616] Distributed ledgers are technologically limited and therefore slow. It takes time to enter data into the register. https://www2.deloitte.com/content/dam/Deloitte/ua/Documents/technology/Bitcoin,%20blockchain%20and%20DLT%20by%20Deloitte.pdf, 6.

*Can you tell me what you think about NFTs in general and why they're interesting and important or not?*

If we get rid of all the baggage of these [grey-market] schemes—it will be there, and was there without NFTs; nobody discovered a new America or anything—I think that it's more of a question of value. For example, how is watching a film on Odnoklassniki or Vkontakte[617] different from watching on Netflix? If the question is the same on all of the platforms, it's a matter of the culture of consumption. I think that NFTs have a high level of consumption culture. I mean that when we're talking about a work of art. Primarily digital art. Of course, the question arises of why all sorts of junk is being sold at auction with NFTs. But actually, it's important that there are digital objects and they have to be attached to something. And how will you prove that it's yours afterwards?

There's a separate issue that's been around for a while. Take a famous company that makes enormous amounts of money on the rights to use the image of Mickey Mouse. For Disney, these matters are handled by their partners who deal with digital rights. For example, if you want to make a T-shirt with Mickey Mouse, you need Disney's approval. Can you put it on a well-known marketplace for fake T-shirts made without paying commissions for usage rights to Disney? Theoretically, yes. Will they come after you? It depends. This is the reason why tracking copyright or using NFTs [this primarily concerns countries like Russia, of course, where such legal enforcement aspects are underdeveloped] is a matter of consumption culture, when the user or buyer chooses a counterfeit item or fully licensed, "official" one.

[617] Popular Russian-language social networks, previously known for distributing pirate content.

Of course, if an NFT can handle some business challenges for Disney, then they'll go for it, but for now, as I know, nothing like that has happened.[618]

*Why do you think NFTs became so popular last year?*

It just developed evolutionarily. There were Crypto Kitties and other projects; there were people who were deep into crypto, who had held crypto for a while and didn't know what to do with it. Imagine that you play Monopoly in a community, and you've been playing for 10 years. Each time, you hand out the little tokens, the game's internal money. And you end up with a market, and the market wants to grow. I think that it's just self-organised. There's a natural process, and it would have gotten there sooner or later. There are people who share some kind of value, and they want to practise this value in various ways. And they'll do it: they'll buy real estate [plots in Decentraland]. You just have a lot of bitcoin and you start wondering, "What should I do?" And a market just arises. On the whole, it's just like what happened with [fiat] money. They aren't worth anything by themselves.

*But if we're talking about NFTs, if there were something you liked, would you buy it for yourself? How do you decide whether a particular thing is interesting, artistic and worth investing in, or is just junk?*

I've thought about that. I haven't looked closely at the works that are out there. But the majority of the ones that I've seen are far from art. They're illustrations, amateurish knickknacks, 3D stuff, but all amateur. Because the people making it are extremely talented, but they're craftsmen who don't understand art. In my

[618] Stephen Jones, "Disney is Hiring Experts to Spearhead Its NFT Ambitions," *Business Insider,* February 8, 2022, https://www.businessinsider.com/disney-is-hiring-experts-to-leads-its-investment-in-nfts-2022-2.

opinion, art still exists on its own for the most part. I saw an interesting project at the New Tretyakov. A British artist gathered a bunch of shells and modelled all the different kinds of shells that could possibly exist using computer vision. Essentially a kind of meditation on evolution. And she minted an NFT of them, one or several. NFTs are kind of a stretch here, but it's like each has its own identifier… But that's all that you can get from NFTs. Real art has nothing at all to do with NFTs. Everyone wants to do it, but nobody knows how.

*How much time do you think has to pass until real art and NFTs become…*

Everyone's started thinking about this now. Between 2 and 5 years, probably. Now people are going to try all kinds of experiments and interesting cases will come up. I just think that all of these cases with…

*CryptoPunks and all of those.*

All of that… I remember being at my desk in school and drawing. For me, it's just a very advanced form of drawing on your desk. For me, it might have been a way of investing if I understood how the market worked. But I don't. So I'd be better off releasing my own NFTs. It's just as confusing as buying some random person's work. They could just spit, take a picture, put 25 filters on it and say, "It's a portrait of a global crisis."

*How aware are you of how banks manage their collections, and are they buying digital art or NFTs right now?*

I think that banks in Russia aren't doing it in general. The top brass is, though. At the very least, At the very least, I think that a lot of them are interested. But probably because it's trendy. And it's always a matter of PR of some kind. If you

throw a cool idea into a community, it will start gathering momentum there and get monetized. So it's a question of the product's availability and how it's promoted in that community. I think that banks will be the last ones to invest in this because first of all, banks are conservative, and second of all, it's not clear at all how to include it on a balance sheet. Let's say you're the chairman of the board at a bank, the buck stops with you, and you say, "Okay, let's go buy some NFTs." You call the head of accounting in, and she tells you, "I'm sorry, but what do I put in the accounts?" And you can't tell her. And then you put it in the budget, but how do you assess its value? Do your auditors have a method for assessing the value of an NFT and how it compares to the market price? It's not a company's stock. People can't even buy bitcoins and list them on their accounts unless you're living in El Salvador or some other place where they recognize that currency. They probably know how to put it on their accounts. But they just said, "It's another asset," and they list it either as an asset or as cash. But what is an NFT? An intangible asset? Maybe as intangible property, or the results of intellectual activity in some jurisdictions. Then you've got to get a trademark or something to register it, and then you can buy it. But then you're buying a painting, not an NFT. But then what's the NFT for? It won't be connected to what's stored on the blockchain at all. And then legal entities can't buy them anywhere in the world.

*I saw one Swiss project where they sold a Picasso in fractional shares. And several of similar others…*

That's interesting. That's one of the trends I mostly understand. You take something really expensive and say, "I'm not going to sell it to just one buyer, but I'll take 20 of these painting, mint 100,000 tokens of each and then sell those." And there will be 100,000 owners of that painting, and you'll get a secondary market of price conversions. But that's just another bubble, because none of those people have a claim to the whole painting unless they buy all of the other tokens.

There are a lot of questions about how to regulate where it's stored and who pays for that storage. You could do this, but who's going to pay for it? Who will pay the transaction costs? No idea. I thought about this. I even wanted to start a project like this when people started running ICO. We had already started making a site, wrote a white paper and even found a couple of investors, then I took on a partner who understood how all of those depositories worked, and he turned out to be unreliable. I shut it all down very quickly. So I thought about how to launch all kinds of secondary things, and it mostly made sense how to do it, but a lot of questions came up…

These are ideas that have been floating around, but it's hard to make them a reality. There are always technical questions. Or practical ones. Let's say you launched 100,000 tokens of a painting. But who pays for the storage of the painting in a museum, or a repository, or somewhere else? Who will restore it if necessary? Do all of the people who bought tokens share that responsibility? Or did they just buy who-knows-what? Do these users have any claim to the painting…

**Tatiana Stiskina, an art dealer and art adviser**

*Could you share the standard procedure for verifying the provenance of the art objects you work with?*

When buying artworks in the Russian Federation, provenance is rarely provided even by the leading antique galleries. In the Russian market, you focus on verifying the authenticity of the work and showing it to one or two leading experts. I also bring it to the Tretyakov[619] or, for instance, to Grabar[620] and confirm that they haven't changed their opinions. I don't work with provenance documentation that is more than eight years old. I always ask that it be redone. Usually, clients buy from art dealers that they know, but don't know the origin of the painting or the previous owner at all. On the Russian market, it usually looks like this: an analysis from one of the three leading expert offices and ideally an entry in a catalogue from that artist's exhibit. Now there is also a demand for technical research, but that is honestly a rarity. If we're talking about old and expensive paintings from the early twentieth century, I think that these technical studies have to be done and then interpreted by an art specialist.

As for my work with provenance, the most you can know is the two previous owners. It's no more than a happy coincidence if the work had been in a well-known bank or institutional collection, or if you can reference it in published catalogues or exhibit documentation, confirm it with personal inquiries, find newspaper publications and so on. You start with the Internet, then move to the archives and so on. In practice, expert analysis is the most important thing in Russia. Triumph Gallery also publishes lists of stolen items, and there are publications about known fakes making the rounds of the market. If a Western work is from Europe, from an auction or from a large gallery, then they usually

[619] http://www.art-expertise.ru.
[620] http://www.grabar.ru/.

provide some kind of provenance. In Russia, however, we trust large auction houses, and dealers rarely bother to check. That's how the incident with Kustodiev's *Odalisque* occurred, which Wexelberg bought at Christie's: the work had perfect provenance. Russian experts clearly proved that it was a compilation, even though there was a clean provenance and list of real, authentic exhibits, and the painting had been sold at auction without so much as a second glance. And many Western dealers really just point at the back of the painting and say, "There's the provenance; I saw three …, and it was also sold at Sotheby's." To see where the painting was sold, there is an art price list. Sometimes you can even get a provenance from auction houses, but without the name of the previous owner, of course. There are some "exposed" works on the art market, and many serious works have a track record in the form of two art dealers, for example, or a collector who is also actively selling their art. When you're in the market, you see the works, and you just know to whom they belong. But provenance as such is absent in the Russian market for historical reasons. Overall, the verification process involves archives, printed material from exhibitions, publications and newspaper clippings, for example. But I would rather talk to an expert on the artist or a specific artistic movement in order to ask whether this information can be trusted or not. In the West, provenance is falsified to the point of forging photographs supposedly from the beginning of the twentieth century. The most important thing for us is the assessment we get from experts and the integrity and reputation of the person you're buying from.

*What are some interesting cases or discoveries that you can share from your or your colleagues' experience?*

It was interesting to hear about how a false provenance from a gallery was drawn up before Jackson Pollock's works were sold. Old documents were printed and stamped and so on. Really, archives determine a lot here. I read about one outfit

in Europe where you can go and have your work checked out to make sure that no heir to a Jewish family is looking for it, or that it doesn't belong to someone, or that it isn't up for restitution. In essence, they discover provenance in this way.

*When did you first encounter the blockchain? What impact do you think it might have on art as a whole? Could you share some important examples that you think are worth mentioning?*

I first heard about blockchain in 2017, mostly in regard to the sketchy schemes of a bunch of guys who created a strange crypto token and sold it for Bitcoin and Ethereum. Then, of course, in 2018, when a Warhol was sold in pieces on newsletters about art and blockchain. I don't actually think that it will have a serious impact on blue-chip art and on the art market. It did have an impact in that it gave artists an opportunity to make themselves known and inspire interest in the art market while legalising digital artists and creating collaborations between traditional and digital artists. Those who prefer physical objects will continue to love them. Those who invested in blue chip classical and modern art will keep investing and enjoying them—there's a limited quantity and are unique simply in that they left an enormous legacy behind in art history. I only really believe in CryptoPunks and maybe a few other projects—they're probably around by now—that are truly significant and will always be mentioned in stories about the rise of NFTs and digital art. And of course, we'll always be talking about Beeple.

*Do you see any potential for applying blockchain technology in museums? If so, in what way? Do you think that there are any interesting international examples?*

There are projects that offer collective ownership of physical objects in museums, and sell these tokens like stocks that are tied to the absolute value of the artwork. In general, classical museums don't like to (and cannot, due to their character and organisational structure) allow deep integration of technologies like this. For

instance, where owners or a management group might decide what is exhibited and so on. I can't imagine that, but I can imagine that museums would collaborate for the sake of PR and progress.

*How does your work with the provenance of digital art differ from your work with traditional art objects? What challenges might you face? How do you think this might look in the future?*

There's a different problem here, where it's difficult and the purpose isn't really clear, save for potentially laundering money, ... As a result, I don't have very much trust in the records of a given artwork's transfer, or even price, on the blockchain. After all, people from the art and investment world who pay millions want to see physical, traditional confirmations of the value of the physical object they're purchasing. I think that NFTs are a separate branch, with their own new values, and that they will develop based on their own ruleset. Serious and expensive art is a lifestyle; it requires physical interaction and social connections developed over many years; trust and pleasure; the enjoyment of objects and their stories; the sense of belonging to an elite class with the ability to purchase and maintain the treasures of the world in the truest sense of the word. Even contemporary art is largely about the scene and a particular social class to which art gives you access.

*What do you think is in store for NFT art in the future? What is the potential for growth, in your opinion?*

I can't even guess. I probably see more in the financial realm than in the physical art one, to be honest. As well as in digital, music and the internet.

*What are the most interesting NFT projects in your opinion? Why?*

CryptoPunks. The biggest and most significant. The rest is all for the crypto community and largely about making NFTs for the sake of making NFTs. I really don’t like Beeple. And there are a few simply wonderful artists that I discovered thanks to NFTs. I think that NFTs are more in the direction of selling virtual accessories, swords and masks for Zoom, metaverses and all that stuff. However, even for the purchase of expensive digital art, I would recommend signing a contract. Honestly, I’m an old-fashioned person and I don’t know how to live without that. With NFT, there are unclear rights as to how you can use your purchase. Maybe that’s far in the future.

**Solomon Lopez, media artist, head of the department of I+D+I in ESAT (Valencia Higher School of Art and Technology)**

*It would be great if you as a participant of the NFT movement and also as an art historian could share your opinion about what you think about blockchain in art, not just NFT. Can we use it for provenance research or updating or making it more transparent? Or for new digital art, which helps artists?*

Yeah, I guess that we should think about such options for blockchain appliances. For example, I recently was interviewed, and we were talking about how traditional artists are trying to be more than that. Now I'm already suffering because of that. I had a meeting in a gallery here in Paris and as you may know, Paris is quite traditional. And now they are proposing to be in contact with the established digital artists or native digital artists and pushing their artists to involve them into the NFT or blockchain technology. And for me it's something that is not as malleable. I think that it's reasonable to use blockchain technologies in an artistic way. I mean, I'm not talking about market or property or certification, because finally you could also apply these technologies with other purposes.

On the other hand, I think that for sure for the concept of the blockchain the most important thing is in relation to this idea of being decentralised, thanks to this technology. I guess that it's a complete change of mind in terms of how we understand the new media environments. And that is super amazing because finally, thanks to that, the concept of the development, I think, is totally different. Because I was always saying that any media artist is someone who is occupied in the media. And it's something that happens with, for example, Net art and how they are cool with displaying their artworks into a browser in this case. Now it's the same with blockchain technology.

*And what do you think about the possession of an artwork, tracking provenance and also royalties, which is now much easier for digital artists?*

Yeah, that's for sure. When you are reaching a good level of impact in the community, you have this kind of contracts that are coming up, people want to reblock your production, to have a limited edition just for themselves and to obtain the whole rights of the production. So by now I think that we have like the hammer by the right side. I was really talking a lot about this idea of knowing that the most important thing in contemporary art production related to new media and digital environments are files. And now thanks to blockchain technology, we can play around with files, move them around, put a value on them, and start storage in a decentralised way. We can share whatever we want. So for me, it's like a really very exciting process, but I think that will be established in a couple of months, and everybody will really accept that this technology is to stay with us.

*In the USA everybody already has got used to blockchain technology. In Russia the Hermitage NFT exhibition. Has Louvre done anything with NFT? And have you heard anything about that on the official level in France?*

I don't think so. I don't know if I'm wrong, but I guess that they were working on something related to the *Mona Lisa*, but I'm not sure if they finally did it or not.

*Is it because this country is more now for traditional art and not so fast to change? Or why?*

I think that here the tradition is very imposing. Parisian people are fashionable and everybody's looking good but not modern at all. The same situation is with contemporary art. We may observe very futuristic projects at exhibitions, but on

the other side, such projects are not produced here. So, it is quite difficult to find a sort of balance in acceptance of new technologies.

*What do you think, can cultural institutions and museums use some of the main ideas of blockchain if we are talking about provenance? Or it is useless and already existing databases are enough for tracking provenance?*

I think the blockchain should be used for tracking provenance of old objects. Obviously, we need to certify not just *Mona Lisa*, but a lot of other works of art. It would give more security to an asset. Here I would remind that when the internet began, all the companies started to use the word “cloud” to tell that everything is slow, thin and not heavy at all. Now with the blockchain, we have the idea of something the opposite, of something that is very heavy—sort of blocks of metal that are saving your data. As an artist, I can't help but note, it's very funny as a metaphor because finally it's like we are trying to put heavy metals in the sky. And, yes, I think that for normalising processes and sales and for making the system more trustful it is a very useful tool.

*What NFT projects, collaborations or people connected with this do you consider the most interesting?*

Obviously Beeple is a key for introducing this idea of value to the intangible things. And I always say that it’s really important to understand interoperability. It codes an algorithm to be like a close ecosystem around that, and I thought that in terms of mediation and talking about the medium itself it was good. Also, I'm working with a Colombian artist. He has built a system of brainwaves and put recommencement mapping with an interface that is trying to reconstruct what

your brain has seen in the last hours. So the idea is to create memories, like I can see something that's pretty amazing.

*Is it about art? Not only NFT?*

Exactly, exactly. So we're not talking about NFT, we're talking about art. I always say that NFT is just a protocol of property in the digital world, that's all. After that, it depends on the artist, the content and the idea of making it valuable or not.

*And what do you think about NFT in the future? How long will it take for NFT market to become stable? When will good artists come to this field?*

There should be a moment when contemporary artists could find their paths into a huge NFT community. Nowadays, as I see it, contemporary artists are in touch with a very small part of the community; we are more focused on museums and festivals. When a contemporary artist becomes an influencer, the situation tends to change. However, there is a problem: not everybody knows digital history and is informed about what happened during the past twenty years in the sphere of technology. And such a state of affair leads to creation of things belonging only to market history, but not to art history.

*And what about strong teams or institutions or individuals who, in your opinion, are moving in the right direction?*

In the gallery world, I think that the most powerful ones are: Galeria Kaufhof Frankfurt an der Hauptwache, König Galerie in Berlin, and Parisian Danae. American Postmasters Gallery was moving in the right direction, but at the moment, I think, they are not on that.

*And what do you think about the idea of Metaverse like an idea of a place for future exhibitions? Or like in a general place where now people start to spend more and more time? What is it for you as an artist and an art historian?*

Now we have the Metaverse introduced by Mark Zuckerberg, with his point of view and envision, but definitely the metaverse is something totally different. We should bear in mind that NFTs are the gate of entry to really understand what do the metaverse and Web 3.0. mean. And art seems just something that makes the infusion of the new technological environment go more smoothly. It was said: "Let's begin with art, let's promote art as the first space for understanding the technology of NFT." I think, the metaverse and Web 3.0 are something that is definitely going to happen. It is an absolutely revolutionary change of the Internet. For me, it's not just isolated people with VR helmets. I would bet on augmented reality—like the reconnection of objects, and even biology connected with Web 3.0. So, in this sense, the metaverse is a new organisation that is coming, and also a sort of autoregularization of human production. If we are pondering such things, NFTs give an opportunity of great social impact. However, by now blockchain technology is not sustainable at all, and its immense carbon footprint is a huge disadvantage.

*But there are already new protocols like Tezos…*

In a couple of months all the blockchains will move to that, so that makes sense. I'm talking more about sustainability, about massive production of plastic and so on. Although, I remain an optimist and hope we as human beings will find a way to survive.

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