

THE ART LAW
REVIEW

Editors

Lawrence M Kaye and Howard N Spiegler

THE LAWREVIEWS

THE ART LAW REVIEW

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Lawrence M Kaye and Howard N Spiegler

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PREFACE

We are pleased to introduce you to the very first edition of *The Art Law Review*. The field of art law has developed over many years to become a significant speciality in the law, as collectors, galleries, auction houses, museums and everyone else involved with art have expanded their collections and businesses throughout the world. Besides involving billions of dollars in the trade, art law has become the means by which the diverse cultures of our societies are governed and encouraged to develop.

We have invited leading practitioners in the field of art law around the world to detail the key developments in their respective countries pertaining to this dynamic and growing area of legal expertise. We have also asked that other leaders in the field focus on particular important issues in this area of law. We thank all our distinguished authors for their fine contributions. We hope you will find them informative, instructive and interesting.

By way of introduction, a brief overview of developments in this field during the past 50 years in the United States, where we practise, seems a good place to begin. Considering that English common law, upon which US law is based, originated in the early Middle Ages, the field of art law in the United States can rightly be characterised as a newborn. The roots of art law in the United States began in the form of intermittent cases in the early to mid twentieth century when visual artists began confronting problems in protecting their work – and themselves – particularly in the areas of copyright and obscenity.¹ Indeed, a body of law that could be characterised as art law did not really begin to take hold in the United States until the 1960s, and even then in a most disorganised fashion. The late and renowned Professor John Henry Merryman, who in 1972 offered at Stanford Law School the first formal art law class in a US law school entitled ‘Art and the Law’, wrote a few years later that he started the course partly out of ‘a desire to determine whether “art law” really was a field’ and noted that he ‘took a good deal of ridicule from colleagues who thought the whole enterprise frivolous and insubstantial’.²

We have come a long way since then. A multitude of art law courses are now taught at US and European law schools and other institutions, such as the major auction houses.³ And although in the late 1960s and early 1970s, when we began practising art law, one would have

1 See generally Joan Kee, *Models of Integrity: Art and Law in Post-Sixties America*, Introduction, 1-42 (University of California Press, 2019).

2 John Henry Merryman, ‘Art and the Law, Part I: A Course in Art and the Law’, 34 *Art Journal* 332, No. 4, 332 to 334 (Summer 1975).

3 See, e.g., Center for Art Law, ‘Art Law Courses and Programs Worldwide’, at www.itsartlaw.org (last accessed 29 October 2020).

been hard pressed to find anyone in the Martindale Hubble Law Directory designated as an ‘art lawyer’, today art lawyers proliferate in the directory; and for the New York area alone, where we practise, there are several pages listing lawyers who call themselves art lawyers.

So, what is art law? Professor Merryman observed that a primary reason for creating his new and novel art law curriculum was that ‘the growth of American art and the emergence of the United States as a major art market involved problems and interests that were sufficiently substantial and complex to call for the services of specially attuned and trained practicing lawyers’.⁴ Well, Professor Merryman’s observation was quite prescient, for that is exactly what has happened during the past 45 years in the United States, and indeed throughout the world. Art law became a respected discipline within the law, and more and more practitioners around the globe began to specialise in the field as the nexus between art and law became more clearly defined.⁵

What had previously consisted of random cases involving visual artists and emerging issues affecting the growing art market started to morph into a cogent body of law. Even before Professor Merryman started his course and wrote the textbook to accompany it (*Law, Ethics and the Visual Arts*), in 1966 Scott Hodes published a book on the law of art and antiquities.⁶ Many other texts followed.⁷ Art law seminars and symposia began to proliferate and now take place almost every day somewhere in the world.

As the international art market grew and became more sophisticated, so did the practice of art law and the number of practitioners who began to devote themselves to the field. Today, art law is an amalgam of myriad legal areas that academicians, practitioners, lawmakers and judges have adapted to the specific needs of stakeholders in the art world, and art law specialists have learned how to apply traditional legal principles to art market disputes and transactions as the art world became more prevalent and more complex. The stakeholders in need of special art law expertise range from the poorest artists to the most sophisticated corporations and government entities. Even a partial list is daunting: museums, collectors, importers and exporters, galleries and dealers, auction houses, living artists (and even dead ones), including digital artists, families and family offices, estates, trusts and foundations, insurance companies, appraisers, art advisers, experts, consultants, corporate art collections, and national and state governments. To address the needs of these varied stakeholders, the experts in the field have taken general legal principles and areas of practice and applied them to the unique needs of the art law stakeholders, in addition to creating new specialities uniquely applicable to art law disputes and transactions. Among many others, these include property law, the law of contracts, consignments, torts, intellectual property, tax, trusts and estates, authentication, insurance, cultural property, moral rights, resale rights, free speech, sales and other commercial law, warranties, conflicts of law, private international law, comparative law, customs, criminal law and securities law. And the list goes on.

4 Merryman (footnote 2), at 332 to 333.

5 A practical and informative guide to the development of art law can be found in Kee (footnote 1). The early roots of art law are also explored in James J Fishman, ‘The Emergence of Art Law’, 26 *Clev. St. L. Rev.* 481 (1977).

6 *The Law of Art & Antiques: A Primer for Artists and Collectors* (Oceana Publications, 1966).

7 Notable among the many are Franklin Feldman and Stephen Weill, *Art Works, Law, Policy, Practice* (New York Practising Law Institute 1974); Leonard Duboff, *Deskbook of Art Law* (Washington DC Federal Publications, 1977); and the seminal text on art law, Ralph E Lerner and Judith Bresler, *Art Law: The Guide for Collectors, Investors, Dealers & Artists* (Practising Law Institute 1989), which is now in its fifth edition.

We have been practising art law since before it became a field, having started in the early 1970s. We believe our own professional journeys serve to illustrate some of the ways this area of law has grown and developed, so we would like to briefly share some of our experiences.

Larry first entered this field as a summer associate at the firm of Botein, Hays, Sklar and Herzberg in 1969. On reporting for duty at this first legal job, he was introduced to a brilliant attorney, who ended up serving as a revered mentor for both of us for many years to come, Harry Rand. Harry was representing the Weimar Art Museum, located in what was then East Germany, which was seeking to recover two paintings by Albrecht Dürer that were taken during the Second World War by US soldiers from a castle in which the paintings had been placed for safekeeping. East Germany (officially the German Democratic Republic), which owned the museum, sued a negligence lawyer residing in Brooklyn, New York, who had purchased the works from a US soldier who appeared at his door one day in 1946.

As it turned out, this was the first case of a foreign sovereign suing in the United States to recover cultural property. It involved many legal issues that took some 15 years to resolve finally in favour of East Germany, to which the paintings were ordered to be returned. The legal principles established in the *Weimar Museum* case continue to be cited in cases involving the recovery of artwork and other cultural property, especially those relating to the statute of limitations, and *Weimar Museum* stands as one of the iconic cases in this area of law.

During the pendency of the case, Howard joined Botein and started a professional relationship with Larry that has spanned many decades.

Our success in the *Weimar Museum* case and the publicity surrounding it attracted the interest of the Republic of Turkey, which was in a dispute with the Metropolitan Museum of Art (the Met) regarding a remarkable collection of ancient jewellery and other artefacts on display in the Met, which had been looted from caves in Turkey many years before. It turned out to be one of the leading cases involving the restitution of antiquities looted from foreign sovereigns, which led to a worldwide interest in trying to prevent such looting from countries around the world.

We sued the Met on behalf of Turkey and a six-year litigation ensued, largely spent defending dismissal motions brought by the Met on the grounds of the statute of limitations and other technical defences. But after we got past all that time-consuming and expensive motion practice, we then commenced the long discovery process, whereby we obtained information from the Met's own files about its knowledge of the objects' provenance or history, and its conduct in acquiring them. Nonetheless, the case presented significant obstacles for us. It was, after all, one of the first major cases brought against a major museum by a foreign government to reclaim looted cultural property. Indeed, at the time of its inception, most commentators were openly questioning how a previously undiscovered and undocumented collection of antiquities could be identified as having been looted from Turkey, let alone recovered.

However, we did prevail and the antiquities, known as the Lydian Hoard, were returned to Turkey in 1993 and exhibited at one of the great Turkish antiquity museums, the Museum of Anatolian Civilizations in Ankara, where it was greeted with great interest and excitement by Turkish visitors to the museum as well as those from other countries. We were privileged to visit the museum when the objects were displayed there, and we cannot adequately describe the excitement displayed by the Turkish viewers. Once the director revealed to them that we and our colleagues had assisted the government in securing the return of the objects, many people came over to thank us personally for helping to ensure that this important part of their heritage had been returned, to be viewed and appreciated by the Turkish people. The Lydian

Hoard case is considered by many as the starting point for the efforts by art-rich countries to reclaim their cultural property, which have continued and increased to this day.

As that case was ending, Botein closed shop and we joined our current firm, Herrick, Feinstein. We brought what was now a growing caseload of restitution work to Herrick, which until that time was a very successful firm that had no experience with art law. Indeed, there were still only a very few attorneys who regularly practised in this area of law.

By the mid 1990s, we were certainly known as art lawyers, particularly in the area of restituting looted antiquities to their country of origin. But then, for various reasons, the world's attention started to turn back to the Nazi era before and during the Second World War, and it became clear that the Nazis not only committed the most horrendous crimes against humanity, but they also committed the most extensive theft of cultural property in modern human history. As restitution experts, it was a natural fit for us to become involved in cases brought to recover artworks looted by the Nazis so that they could finally be returned to the families of the victims of the Holocaust. We would like to briefly mention two of those cases.

We were retained to handle one of the first important cases involving Nazi-looted art, representing the family of an art dealer who escaped from Austria after having had one of her paintings stolen by a Nazi agent. The painting by Egon Schiele is known as *Portrait of Wally*. The case started when the Wally was seized from the Museum of Modern Art (MoMA) in New York by state and then federal prosecutors after it was brought to the United States as part of an exhibition of work by Schiele in the collection at the Leopold Museum in Vienna.

Even though it took more than 10 years for the *Portrait of Wally* case to be finally resolved, it had an enormous influence from the moment it started. The fact that a loaned artwork at MoMA could be seized by US government authorities sent shock waves throughout the world and was a major factor in causing governments, museums, collectors and families of Holocaust victims to focus their attention on Nazi-looted art. Less than a week before the scheduled trial, the case was settled on three major terms:

- a* the Leopold Museum paid the family US\$19 million, reflecting the true current value of the painting, in return for the surrender of their claim;
- b* a ceremony and exhibition was held at the Museum of Jewish Heritage in New York for three weeks before *Portrait of Wally* was returned to Austria; and
- c* the Leopold Museum agreed that signs would be permanently affixed next to *Portrait of Wally* at the museum and wherever it might be exhibited anywhere in the world, explaining the true facts of the painting's ownership history.

Shortly after the *Portrait of Wally* case commenced, we assisted the sole living heir of the renowned Dutch art collector and dealer, Jacques Goudstikker, to recover an extraordinary collection of Old Master paintings that had been looted during the Second World War by Herman Goering, who was second only to Hitler in the Nazi regime. With the adoption in 1998 of the Washington Principles, a non-binding international convention that for the first time brought together 44 nations in an effort to foster the restitution of property looted during the war, the Netherlands adopted a new restitution regime designed to right the wrongs of the past. To make a very long story very short, we assisted Marei von Saher in her Dutch restitution proceedings, and in 2006 we were able to effect the return of 200 works to her.

We also became involved in major art restitution cases brought against foreign sovereigns, which involved the Foreign Sovereign Immunities Act, a law that has been used in numerous cases since then as the basis for suing foreign sovereigns to recover artworks in their possession.

Over the years, we have also developed a wide-ranging practice in non-restitution art disputes, from simple breach of contract cases to more complex disputes involving dealers, collectors, artists and other art world stakeholders covering a wide range of disputes including trademark and copyright infringement, defamation, moral and visual rights, breach of warranty, misattribution, tax and trust matters, valuations, appraisals, experts and auctions.

We also became involved in the transactional side of art law. This aspect of our practice expanded when our restitution clients began asking us to handle transactions involving the sale and other disposition of major artworks and collections we had recovered for them. The transactional side included not only private treaty sales and auction sales, but also estate planning, providing tax advice, assisting not-for-profit entities, planning nationwide and international loans and exhibitions, and advising banks and collectors on using artworks as collateral for bank loans, among many other cutting-edge art law issues.

A sampling of the varied transactional matters we have been privileged to work on is a microcosm of the range of transactional matters that specialist art lawyers came to handle as the international art market expanded. To name but a few: we represented the Neue Galerie in New York in the acquisition of the famed *Woman in Gold* painting by Gustav Klimt, depicted in the film of that name, which has become the *Mona Lisa* of that museum's collection, regularly attracting huge numbers of visitors; we represented the European Fine Arts Foundation (TEFAF) in the creation of its New York Fall 2016 Art Fair; we represented the Malevich heirs in numerous auction sales during the course of 15 years, including the US\$60 million sale of *Suprematist Composition* (1916), which set a world record for Russian art; we represented the Estate of Frances Lasker Brody in the historic sale of its art collection at Christie's (the highlight of which was a Picasso masterwork, *Nude, Green Leaves and Bust*, which sold for a then auction record of US\$106.5 million); we represented a private art collector in one of the largest transfers of Mesoamerican art to a museum, and advised the collector's foundation dedicated to the study and advancement of Mesoamerican art; and we conducted an internal investigation on behalf of an internationally recognised art gallery concerning the authenticity of certain paintings bought and sold by the gallery.

Turning now to this Review, we open the volume with substantive chapters that present an overview of current and significant issues in some important areas of art law:

- a* cultural property disputes;
- b* the art market;
- c* art authentication;
- d* art and technology;
- e* international copyright issues;
- f* moral rights; and
- g* recent trends in art arbitration and mediation.

We then present reports on recent art law developments in 21 key countries. Each country's report gives a review of hot topics, trends and noteworthy cases and transactions during the past year, then examines in greater depth specific developments in the following areas: art disputes, fakes, forgeries and authentication, art transactions, artist rights, trusts and foundations, and finally offers some insights for the future.

We hope you enjoy reading all of these excellent contributions.

Lawrence M Kaye and Howard N Spiegler

Herrick, Feinstein LLP

New York

December 2020

Part I

GENERAL PAPERS

ART DISRUPTION – ART AND TECHNOLOGY IN THE TWENTY-FIRST CENTURY

*Massimo Sterpi*¹

I INTRODUCTION

Nowadays, the concept of art is evolving at an extraordinary and exponential speed, and the impact of technology on art is completely changing the concepts of creation, distribution and ownership of artworks.

Artists were among the first to experiment with the ‘disruptive technologies’, sometimes even delegating most of the creative process to artificial intelligence (AI) or creating artistic autonomous entities that can replicate themselves based on blockchain and smart contracts; at the same time, new technology is also impacting how art is distributed and traded, from the tokenisation of artworks to the creation of art-based cryptocurrencies.

This chapter presents a comprehensive analysis of the impact of new technologies on art and is divided into two main parts: the creation of artworks and new art market services.

II CREATION

With reference to the relationship between art and technology, it should be first pointed out that the Greek word *téchne* indicated both the concept of art and that of technology. In our time, on the other hand, we distinguish ‘artistic creativity’, which primarily has a symbolic and communication value, from ‘technical creativity’, which primarily has the purpose of solving functional problems. However, in both cases there is a creative act at the origin. Today, this distinction is disappearing with the overwhelming entry/utilisation/exploitation of technology in the process of artistic creation, as well as in the distribution of works, thus returning to a more unitary meaning of *téchne*.

i Blockchain and smart contracts

To explain how blockchain technology can contribute to the creation of art, we discuss an artwork conceived by Primavera De Filippi,² a software scientist turned artist (and not the only one, as discussed below).

1 Massimo Sterpi is a partner at Gianni & Origoni.

2 Primavera De Filippi is a permanent researcher at the National Center of Scientific Research in Paris, a faculty associate at the Berkman Klein Center for Internet & Society at Harvard University and a visiting fellow at the Robert Schuman Centre for Advanced Studies at the European University Institute.

Her artistic project *Plantoid* was conceived with the goal of showing the potential of technology in creating blockchain-based life forms, meaning independent algorithmic entities capable of sustaining and reproducing themselves autonomously, without human intervention.

How does *Plantoid* work?³ It is made up of metal sculptures as well as software embedded directly in a blockchain (generating a distributed autonomous organisation). More specifically, it is formed by a series of plant-like metal sculptures, characterised by individual distinctive DNA structures (e.g., rules about their shapes and relationships with donors), associated with a unique digital wallet accepting cryptocurrency from the public. Each plantoid thanks every donation received by moving itself and by playing sounds and lights, in a kind of machine dance. Upon receipt of a predetermined amount of money in a wallet related to a plantoid, a smart contract registered in the blockchain system automatically launches a competition to design a new plantoid, different but based on the same basic DNA. Among all of the projects received from (still human) designers, the donors (bees) select the winning project by sending micro sums to the preferred project. The winning designer then receives the sum in cryptocurrency through a smart contract and he or she can create a new plantoid. And so on. Thus, *Plantoid* is an autonomous system that could invade the planet with a potentially infinite number of plantoids.

Another example of a conceptual artistic project based on blockchain technology is the ‘Scarab’ experiment, aimed at creating an artist collective bound by a single cryptocurrency, named the Scarab.⁴ For each Scarab project, a thousand people submit one or more artworks and receive a Scarab token in return. Those who have received the Scarab token vote to choose which of the received artworks will be mixed by an AI charged with the task of digitally manipulating images to create one single image. In this example, a thousand people are co-authors, together with the AI, of the final work,⁵ thus creating a new kind of ‘crowd-creation’ where humans and AI work together.

Finally, the blockchain has recently attracted the attention of the famous Ai Weiwei, who partnered with Irish–US artist Kevin Abosch to create blockchain-based work called *Priceless*.⁶ *Priceless* is made up of two standard ERC-20 tokens on the Ethereum blockchain with the name PRCLS and works as follows:

One of the tokens is not available at all, the other is divisible up to 18 decimal places and is to be given away one quintillionth at a time, for free. That is enough for every person on earth. A small amount of the distributable token was instead put into inaccessible digital wallets; the codes for the 12 wallets were printed on paper and sold to art buyers. The codes represent a personal moment in time shared by Ai and Abosch, for example, walking down a street in Berlin, where Ai lives. The pieces of paper are practically worthless, and the codes are a proxy for a fleeting human experience and refer to a valueless token – priceless.⁷

3 See www.okhaos.com/plantoids/.

4 See www.thescarabexperiment.org/.

5 ‘SCARAB is not attached to a physical work of art or digital object because the cryptocurrency itself is the art, chosen by the artist to be, act, and represent the linguistic term of what an artwork is’ (www.thescarabexperiment.org/).

6 See www.vice.com/en/article/qvmm9m/ai-weiwei-kevin-abosch-blockchain-art-priceless.

7 See www.thepeakmagazine.com.sg/lifestyle/cryptocurrency-prices-artwork-maecenas-dadiani-syndicate/.

ii AI and algorithmic creation

Other examples of creation through or with the support of AI are three different projects: *The Next Rembrandt*, the works of the French art collective Obvious, and the collaborations between Ahmed Elgammal and AICAN.⁸

The first example is the project named *The Next Rembrandt*, conceived by the advertising agency J Walter Thompson and commissioned by ING Bank. It is based on a study of all the artworks created by Rembrandt;⁹ in particular, all data related to Rembrandt's artworks were collected in a software to analyse the main distinctive features of the artist (e.g., brush strokes, chosen subjects and the way of alternating lights and shadows) and, based on the patterns that emerged from such analysis, an AI algorithm created a new and entirely original artwork, in the Rembrandt style. The work was then printed onto canvas using a 3D printer, programmed to release a quantity of ink suitable to recreate, even in terms of thickness, the same effect of Rembrandt's works.¹⁰

The second example is the artwork *Portrait of Edmond de Belamy*, created by a French collective of artists called Obvious, starting with 15,000 portraits dating back to the period between the fourteenth and twentieth centuries and using a generative adversarial network (GAN).¹¹ A GAN is a pair of neural networks: the first neural network, which is called generator, randomly mixes all the images that have been put into its memory and creates random combinations; the second, which is called discriminator, selects random results produced by the generator: the ones that better respond to the recurring pattern that had been identified in the original images; the discriminator tries to reproduce human judgement, discarding all the paintings that are not so plausible as potential works created by a human artist. The *Portrait of Edmond de Belamy*, one of an edition of 10, was auctioned at Christie's in New York on 25 October 2018, and sold for US\$432,500 (starting from an estimate of US\$7,000 to US\$10,000); it was the first AI artwork to be sold through a major auction house.

The use of GANs generates considerable problems in terms of authorship; for example, who is the author of the *Portrait of Edmond de Belamy*? The basic algorithm that makes the GAN work was developed by Ian Goodfellow (whose name is evoked in the Belamy surname given to the imaginary character portrayed in the painting),¹² while a second programmer – Robbie Barrat – set the parameters used by the algorithms and loaded the 15,000 ancient portraits into the GAN's memory, making it available online to be freely used by anyone. From there, Obvious slightly modified the software and generated a series of portraits that seem to belong to the same family (named 'the Belamy family'). Finally, Obvious printed the selected images on canvas, gave them a title, and decided to sign them

8 Meaning 'artificial intelligence creative adversarial network'.

9 See www.nextrembrandt.com.

10 The project's creators described the operational procedures, by stating that: 'We examined the entire collection of Rembrandt's work, studying the contents of his paintings pixel by pixel. To get this data, we analyzed a broad range of materials like high resolution 3D scans and digital files, which were upscaled by deep learning algorithms to maximize resolution and quality. This extensive database was then used as the foundation for creating *The Next Rembrandt*' (www.nextrembrandt.com).

11 'Obvious is a collective of researchers, artists, and friends, working with the latest models of deep learning to explore the creative potential of artificial intelligence. They are behind the sale of the first AI artwork to go through a major auction house. They use their work to share their vision of artificial intelligence and its implementation in our society' (www.obvious-art.com/).

12 Goodfellow almost translates as *bel amie* in French.

with a portion of the algorithm created by Ian Goodfellow, symbolising the signature of the AI at the base of the entire process. In this case, who is the author of the painting? The basic algorithm (as the signature pretends)? The individual who set the parameters and fed the algorithm with images? Obvious, who chose the images to print, signed them, and gave them a title? Or a combination of all of them?¹³

Some critics argued that this creation by Obvious was nothing more than a reinterpretation of the concept of the *objet trouvé* or of Marcel Duchamp's readymades or, brilliantly, that the *Portrait of Edmond de Belamy* could be called 'a machine learning equivalent of a urinal on a plinth'.¹⁴ In other words, the work created by a GAN would be nothing more than a mere material object, which is transformed into a work of art by giving it a title, signing it and putting it into the art circuit.¹⁵ After all, in conceptual art, the work of art is not the artefact itself, but it is the artistic action with which the author makes art out of an object, just as Marcel Duchamp took a porcelain urinal, named it *Fountain*, signed it using the pseudonym 'R Mutt', and then exhibited it in a museum.

Moreover, in early 2019, the HG Contemporary Gallery in New York presented a series of paintings in an exhibition named 'Faceless Portraits Transcending Time',¹⁶ in which the exhibited works were presented as a collaboration between an AI (AICAN) and its creator, Dr Ahmed Elgammal, another professor of computer science turned artist.¹⁷

The works were based on a set of 3,000 Renaissance portraits. Differently to Obvious, Dr Elgammal used a creative adversarial network (CAN), and not a GAN (in the exhibition labels, the paintings were defined as: 'creative adversarial network print'): Dr Elgammal explained that a CAN is composed of a generator (the same as a GAN) and a second neural network (which we may call a twister) that does not limit itself to judging whether the results conform to the pattern detected in the initial data (such as the discriminator of GANs), but prizes the addition of new elements (deviations) within a given style.¹⁸ In this way, the CAN reproduces the natural evolution of art, which normally does not proceed by radical changes, but through small alterations of a pre-existing style.¹⁹

13 For an analysis on the IP implications of *Portrait of Edmond Belamy*, see www.ipkitten.blogspot.com and www.moc.media/en/2527. The following is also reported by one of the co-founders of the Obvious collective, Hugo Caselles-Dupré: 'If the artist is the one that creates the image, then that would be the machine. If the artist is the one that holds the vision and wants to share the message, then that would be us.'

14 See www.theatlantic.com/technology/archive/2019/03/ai-created-art-invades-chelsea-gallery-scene/584134/.

15 As Mario Klingemann, a German artist who has won awards for his own work with GANs, commented, 'I wonder why [Obvious] missed the opportunity to declare their work as an AI-readymade and bring us the first digital Duchamp.'

16 See www.hgcontemporary.com/exhibitions/faceless-portraits-transcending-time.

17 Dr Ahmed Elgammal is a professor at the Department of Computer Science, Rutgers University. He is the founder and director of the Art and Artificial Intelligence Laboratory at Rutgers. He is also an Executive Council Faculty at Rutgers University Center for Cognitive Science. Dr Elgammal is the founder and CEO of Artrendex, a start-up that builds innovative AI technology for the art market.

18 The CAN is described in a 2017 paper by Ahmed Elgammal: 'The system generates art by looking at art and learning about style; and becomes creative by increasing the arousal potential of the generated art by deviating from the learned styles' (*CAN: Creative Adversarial Networks, Generating 'Art' by Learning About Styles and Deviating from Style Norms*, Ahmed Elgammal et al., June 2017, www.researchgate.net/publication/317823071_CAN).

19 See Zack Thoutt, 'What are Creative Adversarial Networks (CANs)?', <https://hackernoon.com/what-are-creative-adversarial-networks-cans-bb81d09aa235>.

After the above pioneering works of Obvious and Dr Ahmed Elgammal, an entire artist movement has started, called ‘Generative Art’. The opening page of their flagship website states:

Generative Art is a process of algorithmically generating new ideas, forms, shapes, colors or patterns. First, you create rules that provide boundaries for the creation process. Then a computer (or less commonly a human) follows those rules to produce new works. In contrast to traditional artists who may spend days or even months exploring one idea, generative code artists use computers to generate thousands of ideas in milliseconds. Generative artists leverage modern processing power to invent new aesthetics – instructing programs to run within a set of artistic constraints, and guiding the process to a desired result.²⁰

Thus, neural networks, GANs and CANs have rapidly become a new addition in the twenty-first century artist’s toolkit, but people still firmly overlook their output.

iii Art and law in the digital age

Is there a legal notion of what is an artwork? Whereas in many jurisdictions artworks are defined by the medium they are incorporated into (paintings, etchings, sculptures), in others – including Italy – this concept is left open and generally defined by reference to what is recognised as such in the relevant fields, even if this approach is not always seamless.

The huge growth of the forms of expression, the extreme variability of approach to art themes and, lately, the inclusion of disruptive technologies in the creative process, still create many interpretation issues.

Almost a century after *Brancusi v. United States*²¹ – where the Custom Court found that ‘while not resembling a bird’, the Brancusi sculpture *Bird in space* was ‘beautiful and symmetrical in outline’ and, taking into account the emergence of abstractionism, it could be qualified as an artwork and exempted from custom duties²² – a new tax case concerning art created with disruptive technologies is taking a much less progressive approach. An artist requested an official ruling by the Italian tax authorities, to apply the reduced VAT rate reserved to artworks directly sold by their creator (10 per cent), rather than the ordinary VAT rate (22 per cent). He reported that he digitally created some sculptures on his computer, printed them with a 3D printer and then finalised them by hand. The Italian law, for the application of such reduced tax rate, defines artworks, as far as sculptures are concerned, as ‘original works of statuary art or sculptural art, of any material, provided that they are made entirely by the artist; castings of sculptures with a limited edition of eight copies, controlled by the artist or by those entitled . . .’²³ The tax authorities replied that, for tax purposes, these sculptures cannot be considered artworks as they were neither ‘made entirely by the artist’ (because the personal intervention of the artist was residual and limited to the final

20 <https://aiartists.org/generative-art-design>.

21 *Brancusi v. United States*, 54 Treas. Dec. 428, 429 (Cust. Ct. 1928).

22 See www.thelegalpalette.com/home/2018/3/20/brancusi-bird-in-space-is-it-a-bird-or-is-it-art#:~:text=In%20the%201928%20case%20Brancusi,for%20the%20free%20import%20duty.&text=United%20States%20to%20transform%20the,into%20a%20more%20contemporary%20standard.

23 Decree Law No. 41/1995.

painting of the sculpture) nor were they part of an edition of less than eight cast sculptures.²⁴ This decision of the Italian tax authority could be criticised on several fronts, but mainly on the interpretation of the concept of ‘made entirely by the artist’: this concept, in fact, must be updated considering the technological tools (such as CAD design or 3D printing) now commonly available to artists. Therefore, while in the past artists used tools such as brushes or chisels, now they use software, algorithms and 3D printers, but this should not make any difference provided that the artists are in control of those tools (as in the case mentioned). Also, it cannot be ignored that the art market is validating these new forms of artistic expression, as, for example, in the aforementioned sale of the *Portrait of Edmond de Belamy* at Christie’s or with the organisation of the Contemporary and Digital Art Fair that took place in New York, and was focused on ‘showcasing the diversity of digital artistic mediums, including immersive installation, video art, virtual reality, creative experiments Blockchain-based and more’.²⁵

III POST-COVID ART MARKET

While the digital transition of the art market has been occurring for a few years, the lockdowns imposed by the coronavirus pandemic have dramatically accelerated it in 2020. A recent Art Basel survey concerning the first six months of 2020 reveals that the share of online sales of art galleries ‘rose from 10% of total sales in 2019 to 37% in the first half of 2020’.²⁶

Therefore, the presence of digital tools in the art market is no longer marginal, but absolutely central. The new technologies are in fact impacting fundamental aspects such as the assessment and guarantee of authenticity and provenance, the legal title of the seller, the opportunities of fractional ownership, and the way proceeds from art sales are shared among the various players involved.

i Evidencing authenticity and provenance

The basic issue involved in art sales is the authenticity of the work of art and this aspect has recently become quite problematic when many authentication committees (Warhol, Basquiat, Haring, to name a few), facing a growing number of disputes with disgruntled collectors, have ceased to issue certificates attesting the authenticity of the same, thus creating a confusing grey area in which collectors do not know who to turn to.²⁷

One way to solve this problem is to create digital incorruptible evidence of the chain of title of an artwork, best of all from its creation.

24 See www.agenziaentrate.gov.it/portale/documents/20143/2665720/Risposta+all%27interpello+n.+303+del+2020.pdf/907a73a3-a850-4849-8907-4630065901b5.

25 See <https://cadaf.art/>. ‘CADAF is a discovery and interaction platform dedicated to digital and new media art. It regularly hosts international art fairs, special events, art exhibitions and talks. Discover and connect with the world’s most important artists, galleries, curators and collectors of the digital art market. CADAF is a product of New Art Group LLC, along with New Art Academy, dedicated to art + tech education.’

26 See www.artbasel.com/about/initiatives/the-art-market.

27 Inter alia, see, for example: (1) the Andy Warhol Foundation, which will no longer authenticate the works of the well-known pop art artist; (2) the Authentication Committee of the Estate of Jean-Michel Basquiat, which, after having attributed more than 2,000 authenticated works over the course of 18 years, completely ceased to authenticate the works of the US artist in September 2012; and (3) the Keith Haring Foundation, which has dismissed the authenticity committees and no longer examines works attributed to the artist.

One example of this is the activity of a US company named Verisart, which applies blockchain technology to combine transparency, anonymity and security to protect records of creation and ownership of artworks and collectibles. On the home page of the Verisart website, it is stated that:

*Verisart is building evidentiary infrastructure for artworks and collectibles that is verifiable by anyone. . . . Records are encrypted and timestamped by the world's most-trusted decentralized ledger. Certificates are easy to manage and can be shared or transferred at any time.*²⁸

The identification of the work is actually ensured by Verisart by uploading a high-definition photo of the artwork, which makes it easy to spot any potential forgery through image-recognition technology.

Needless to say, the effectiveness of the system depends on the accuracy of the data initially entered. To demonstrate and emphasise this, Terence Eden, a technology enthusiast and influencer, uploaded on Verisart, as his own work, Da Vinci's *Mona Lisa*, thus generating a blockchain provenance record that claims he is the true 'author and owner' of *Mona Lisa*; given the (almost) impossibility of erasing the 'blocks' of a blockchain, this information will remain recorded in the system forever, although obviously no one will realistically believe it to be true.

A different form of authentication is proposed by the San Francisco-based *Chronicled* company, which uses blockchain technology to address the issue of avoiding counterfeiting, in particular by placing microchips on or within any physical object (and therefore also on or within works of art)²⁹ and then monitoring each stage related to ownership changes. The process is the following: (1) a microchip is placed somewhere on or in a work of art; (2) there is a private key that is stored in the microchip, invisible to the human eye; (3) there is also a corresponding public key stored on a blockchain; and (4) when you scan the microchip, it goes through a cryptographic algorithm and affirms that this is the authentic work of art.

It is interesting to point out that the microchips may be used as self-authentication – the artists themselves can attach it when they produce a new work – and they can also be applied to older works as a certificate of authenticity by the entity in charge of authentications (e.g., an artist's estate).

ii Artwork recognition and stroke recognition

Technology provides the art market with a new powerful tool to verify the authenticity of artworks: AI, applied either to the artwork as a whole or to characterising elements thereof, such as the strokes in a drawing.

With regard to the recognition of the authenticity of an artwork as a whole, *Art Recognition*, a Swiss start-up, offers AI-powered authentication rulings on paintings within days, based on photographic reproductions.³⁰ The process involves three steps: (1) a photo of the artwork (taken with a smartphone) must be sent to *Art Recognition*;

28 See www.verisart.com/: 'Verisart is building evidentiary infrastructure for artworks and collectibles that is verifiable by anyone.'

29 See www.chronicled.com/: 'Automating business rule enforcement in the life sciences industry through the blockchain-powered MediLedger Network.'

30 See www.art-recognition.com/: 'The Art Recognition computer system assesses the authenticity of an artwork by analyzing its photographic reproduction with the help of AI.'

(2) the Art Recognition's algorithm learns an artist's main features from a set of photographic reproductions of original works by that artist; once the tool has been trained to recognise the characteristics of an artist, it checks whether the learned characteristics match those of the artwork being submitted for authentication; and (3) Art Recognition will get back with a report summarising the most important steps of the analysis and the conclusions reached about authenticity.

Another interesting project concerns the verification of the authenticity of drawings. Rutgers University, with a team led by Dr Ahmed Elgammal³¹ (who separately created the above-mentioned CAN), and the Atelier for Restoration & Research of Paintings³² have commenced a research project on several hundred drawings by a few famous artists, trying to show how each line drawn on a sheet of paper is practically comparable to a fingerprint of the artist. In particular, the algorithm they created broke down almost 300 line drawings by Picasso, Matisse, Modigliani, and other famous artists, into 80,000 individual strokes. Then, a recurrent neural network learned which features in the strokes were important to identify the artist and, at the same time, the researchers also trained a machine-learning algorithm to look for specific features, such as the shape of the line in a stroke. With both algorithms working in tandem, the researchers were able to correctly identify artists around 80 per cent of the time. The same technology is able to distinguish an original drawing from a certain artist from a forgery of the same.

IV ART MARKET SERVICES

The new technologies have also permitted the emergence of a number of new services directed towards the art market, a few examples of which are discussed below.

i Art appraisal

The soft spoken world of art appraisers is now facing competition from an AI-based appraisals system. An Italian startup, Kellify.com, has created an AI-powered methodology that, by processing art market big data, is able to provide automated appraisals of artworks, as well as forecasts of their future market trends. Being able to provide real-time detailed objective insights and forecasts, remotely, and 24/7, Kellify immediately attracted the attention of art insurers, art lending institutions and art funds.

ii Instant access to artworks data

Another innovation that has been considered very disruptive for the art market is the Magnus application, which could be considered the Shazam of the art world.³³ This application makes it possible, on the basis of a photographic reproduction of an artwork, to search within the databases of all the most important auctions and all the other available data on the art market and to instantly find data on the work and on its previous commercialisation (author, year of creation, sales history, or if and when it remained unsold). Therefore, Magnus allows anyone

31 See footnote 17.

32 See www.arrs.nl/arrs_en.html: the Atelier for Restoration & Research of Paintings, founded in 1991, 'has been consulted for professional restoration, authenticity research, expertise and condition reports by national museums, government agencies, institutions and auction houses. Our international client base includes leading art dealers and private collectors worldwide.'

33 See www.magnus.net/about/: 'Our mission is to make the art market transparent.'

to have instant access to such information and, as a consequence, leads to greater transparency in the art market. This application creates a real disintermediation of the relationship between collector and works of art: the collector no longer needs an expert to access this data.

iii Marketing intelligence

Thread Genius, established in 2015 and then acquired by Sotheby's in 2018, through a set of AI algorithms, carries out market intelligence activities, endeavouring to identify which works might be of interest to a collector on the basis of his or her previous acquisitions. Similar AI-based services are now offered by Artrendex through its ArtPI platform,³⁴ which enables museums, galleries and fairs to better engage with their visitors and clients by offering them images of artworks that have characteristics that correspond to other artworks they appeared to admire.

iv Client relationship management services

Arternal, established in 2015, 'was the first technology company to focus exclusively on bringing client relationship management technology to the art world'.³⁵ It builds workflow software to help galleries to better manage client relationships allowing: (1) client relationships to be nurtured with the kind of thoughtful, personal touch that leads to successful sales, within less time and with less staff engagement; (2) creation of an institutional memory, enabling the collection, maintenance and use of data that stays with the company even when employees move on; and (3) better allocation of staff and resources based on tracking sales and performance across the entire operation. According to information that appeared in the press, Arternal is now working on a platform that will recommend works to collectors based on similarities between buyers (age, place of residence, profession, income).³⁶

v Shipping services

ARTA is a digital platform delivering global logistics and services for art shipments.³⁷ It offers automated quotes for packing, shipping and installing artworks in a few minutes, which is a significant improvement on the hours or days normally needed to get such an estimate from a traditional art shipper.

vi Art curation

After the Swiss collective fabric|ch created an artwork for the 2019 exhibition 'Entangled Realities: Living With Artificial Intelligence' at Basel's House of Electronic Arts, which was entitled *Atomized (curatorial) Functioning* and that 'leveraged algorithms to produce a steady stream of layout variations for the very show in which it appeared',³⁸ we now have the first biennale entirely curated by a robot: the chief curator of the 2022 Bucharest Biennial will be Jarvis, an AI program in development from the Vienna-based studio Spinnwerk that will 'use deep learning in order to learn by itself from databases from universities, galleries, or art

34 See www.artpi.co/.

35 See www.arternal.com/.

36 See <https://news.artnet.com/market/ai-art-business-intelligence-report-2020-1812288>.

37 See www.shiparta.com/.

38 See footnote 36.

centers' and select works that fit the chosen theme. As to the impact of digital technologies on art, it is also interesting to underline that this entire biennale will only be available in virtual reality, through a virtual reality headset.³⁹

V SALES

New technologies are also creating new opportunities for how artworks can be traded.

Experiments in fractional ownership offered through online platforms may involve either traditional co-ownership contracts (see Art Share)⁴⁰ or create digital ownership certificates through the blockchain, creating digital tokens, which is known as 'tokenisation' of artworks.

This business model based on blockchain technology was first created in 2017 by Maecenas.co, a blockchain-based platform that allows anyone to buy, sell and trade fractional ownership in masterpieces on a liquid exchange.⁴¹ Fractional ownership then permits even small collectors to invest their money in (fractions of) important works of well-known artists, rather than in works of lesser known artists, thus increasing their chance of having access to the most dynamic and liquid portion of the market. The Maecenas platform is based on the following principles:

- a* it creates a direct interaction between the owner and the investors, without the need for other intermediaries (apart the platform itself); and
- b* it is transparent, inclusive and available to anyone, not just to ultra-wealthy individuals.⁴²

Its mechanism also permits collectors who owns important works to sell only a portion of their value (less than 40 per cent), cashing the revenues of the fraction sale and maintaining possession of the work, thus making the artwork 'fractionally liquid'.

On 6 September 2018, Maecenas sold, through tokenisation, more than 30 per cent of Andy Warhol's painting *4 Small Electric Chairs* (1980), for US\$1.7 million: the tokens acquired can be traded through the Maecenas exchange.⁴³

In this respect, Marcelo Garcia Casil (CEO of Maecenas) explained:

*This is a historical moment, for us and for the blockchain community. We have achieved a significant milestone that marks the beginning of a new era. Tokenisation of assets is the most prominent and exciting use case of blockchain technology, and we're proud to be pioneers in this space. This Warhol painting is the first of many more to come and we are looking forward to seeing and leading the financial revolution for the art market.*⁴⁴

39 See <https://news.artnet.com/exhibitions/bucharest-biennial-curated-by-artificial-intelligence-1872342>.

40 See www.artsharesales.com/.

41 See www.maecenas.co/: Maecenas, the art investment platform.

42 'Traditional auction houses charge up to 25% commission on sales. Galleries, up to 50%. Our fees are as low as 1% for buyers and 8% for sellers. Plus, with Maecenas, there are no storage fees and no lock-in periods. You have the freedom to trade your tokens anytime on a liquid exchange.' (www.maecenas.co/whats-maecenas/).

43 www.finivi.com/tokenized-art-alternative-investment/.

44 'This auction was uncharted territory; a new model in an age-old market. The unprecedented demand, and speed with which the first fraction has been sold, has gone a long way to validating our vision of a more democratic and open art investment market,' Eleesa Dadiani, www.realwire.com/releases/first-ever-multi-million-dollar-artwork-tokenised-and-sold-on-blockchain.

This new experience and the rapidity with which it spread among investors has pioneered the massive implementation of this technology in the art market, demonstrating the merits of developing and improving this market through technology.

Now other players are entering the same art tokenisation market: among the most original is Snark.art, which sold 2,304 tokens (called atoms) of a video work called *89 Moments Atomized* by Eve Sussman, the sale involving not only a digital token but also ownership of a fraction of the screenshot of the same video: namely, each atom is 400 pixels of the entire visual frame with an approximately 10-minute duration (that is the duration of the full video) and the mechanics of blockchain ensure that each atom is uniquely assigned to the owner, so that provenance and singularity cannot be pirated or faked.⁴⁵

Tokenisation is proving particularly attractive to a young and digital generation of buyers and is now being applied to all sorts of collectibles (thus, not only fine art, but also sport memorabilia, racing cars, watches, comic books), there being at least 10 other companies offering tokenisation opportunities.⁴⁶

A totally different experience is that of the online platform *dada.nyc*, which only trades in digital art. This website does not offer fractional ownership, but each sale of a digital work (normally offered in numbered editions) is actually recorded on a blockchain and this guarantees the ‘digital scarcity’ as only one work with a certain edition number will exist and be recorded on the Ethereum blockchain. Moreover, the platform has implemented a unique way of sharing the proceeds of each subsequent sale of a digital artwork traded through it, with only 60 per cent of the proceeds going to the seller, 30 per cent going to the artist and 10 per cent to the platform, with all payments being made automatically through smart contracts.⁴⁷

VI CONCLUSION

Disruptive technologies (such as blockchain, AI, neural networks, smart contracts, virtual reality and augmented reality) are creating entirely new works of art and business models, which are revolutionising the quite steady art market.

As most of these innovations are sailing in unknown waters, entirely new legal issues are emerging as to authorship, authenticity, representation and warranties, financial regulation of art trade, cross-border sales, transactions’ traceability and privacy, and use of smart contracts.

Therefore, the art law lawyer of the future must also, inevitably, be a technology lawyer.

45 See <https://medium.com/@snarkdotart/snark-art-launches-new-art-and-blockchain-laboratory-with-acclaimed-artist-eve-sussman-press-6e7777b50142>.

46 See www.bloomberg.com/news/articles/2020-02-07/you-can-own-a-fraction-of-a-warhol-but-should-you.

47 See www.artmarket.guru/le-journal/blockchain/yehudit-mam/.

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Massimo Sterpi is a partner and head of the IP and art law departments in the Rome office of Gianni & Origoni. A passionate art collector, he has gained internationally recognised experience in art law. In this field, he addresses various topics including problems of authenticity, recovery of stolen or looted artworks, commissions of artworks, management of artists' estates, licences and merchandising, unauthorised reproduction, sales and exports of works of art and declaration of works of art as national treasures. In recent years, he has focused on the impact of disrupting technologies on the creation, distribution and trade of art. He has authored and edited numerous publications on intellectual property, art law and art tech, including *The Art Collecting Legal Handbook* (published by Thomson Reuters), which covers the laws on art in 30 different jurisdictions. He also frequently speaks on art law subjects at international conferences.

Massimo is on the WIPO lists of mediators and referees in matters of IP and art and cultural heritage. He has been chairman of the IBA Committee for Art, Cultural Institutions and Heritage Law and is currently the president of the UIA's Art Law Committee. He is also a member of the advisory board of the Peggy Guggenheim Collection in Venice and sits on the board of directors of Fondazione Prada and of the US Friends of the MAXXI Foundation.

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