

**PANEL 1: DIGITAL ART AND DIGITAL COLLECTIBLES**

ROSS BLUM\*

STEVE R. SCHINDLER\*

AMY WHITAKER\*

ELENA ZAVELEV\*

CHRISTOPHER BUCCAFUSCO (MODERATOR)\*

**PROFESSOR CHRISTOPHER BUCCAFUSCO:** Good afternoon, everyone. For those of you whom I haven't met, my name is Chris Buccafusco. I am a Professor of Law here and Director of the Intellectual Property and Information Law Program at Cardozo Law School. I'm delighted to welcome you to this first panel, to thank Professor Evans for her terrific introduction already, and especially to thank the students for their incredibly hard work of putting together an important if, to me, often mystifying symposium on a really cool topic that I'm very excited to discuss.

My role as moderator of the first panel, I think is, I believe as Devin described it to me, is to make quizzical faces [laughter] while smarter people explain things to me. And so, the role here is to kind of like begin to start to flesh out some of the issues that we're going to discuss with respect to art and digital art in particular, and digital art and the blockchain.

And we have an amazing panel of distinguished speakers to participate in it. From my left to right, and thus vice versa for you, Ross

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\* Assistant Professor of Visual Arts Administration at NYU; blockchain researcher and advisor.

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Blum, who is Chief Operating Officer at Quidd, the world's largest social marketplace for digital goods and media technologies, and also, a Cardozo alumnus.

Next to him is Steve Schindler, one of the founding partners and Head of the Art Law Group at Schindler Cohen & Hochman. He is also Chair of the Art Law Committee at the New York Bar Association.

To his right is Amy Whitaker, Assistant Professor of Visual Arts Administration at New York University, and a blockchain researcher and advisor. And on the end of the panel is Elena Zavelev, who is Founder and CEO of New Art Academy, the authority on ArtTech, blockchain, and AI for the global art market.

So I am just a tyro here, and part of my job as tyro is to go through a variety of slides just to give you a sense of at least some of the things we're talking about, partly to like let you look at them, partly also to give us an opportunity to think about where they reside and how they fit with, and some of the first questions I'll want to ask you all is how do these things fit within our just general conceptions of like what is art, and how is it collected, and how does it move?

So I've got a variety of examples here that were collected by the students,<sup>1</sup> and we will start with what I am told is the rarest of the Pepes. So you may be familiar with Pepe in his Alt-Right meme status online. Pepe apparently, and that's, this is a clear vision of Pepe the Frog, is originated online in various online community groups, and has become an important meme in various ways.

Pepe as a meme, I take it, is mostly valuable for the extent to which he spreads incredibly rapidly through many, many channels very quickly. But in the context that we're going to be discussing here as I understand it, the value of these Pepes is in their rarity. The ability to own a single copy or at least something like a single copy of, in this case, the Homer Simpson Pepe, which sold for, and I'm not reading this incorrectly, \$40,000, and exactly what was sold and what one owns for \$40,000 is something I want you to tell you me about, but here is another version of Pepe collecting Rare Pepes, a meta Pepe.

Here is Slothicorn, a combination of sloth and unicorn, a project licensed under a Creative Commons license that was an attempt to direct profits back to other people engaged in Creative Commons-style digital art.

Here are pictures of CryptoPunks. These are supposed to be, these are kind of unique individual digital art productions. Each one of these is capable of being owned on some various style of blockchain or other digital art measure. Here is a particularly large and, I'm told, cool [laughter] Crypto-Punk.

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<sup>1</sup> Slideshow available at [CardozoAELJ.com](http://CardozoAELJ.com).

One thing that's going to be clear, if it's not already, is that these sorts of issues are going to push very strongly the famous notion that art is in the eye of the beholder, [laughter] an issue that I am trying to illustrate with my own neckware today; I apologize for that. [laughter] But certainly, and again, one of the things I'll want to know from you is like what role does aesthetics have in any of these sorts of things. So as you look at here, these are important works from the digital landscape as well. Finally, some pictures of CryptoKitties, one of which sold for as much as \$170,000.

So maybe let's just start with that question: what does \$170,000 buy you in CryptoKitty space? I'm happy for anyone to begin to answer these questions. [laughter]

**MR. ROSS BLUM:** No, I mean, I think really, all right, so first of all, a few things. First of all, I'm very excited to be here. I graduated in 2015, so I'm not too far out of the doors here at Cardozo. I hear it's Barristers' Ball tonight, so I hope you guys are going to have fun this evening and celebrate; it's a tremendous occasion.

As far as it comes to collecting the one-of-one card first, and we can move on to CryptoKitties and things like that, we at QUIDD, which is a rare digital goods collecting platform, we actually are not a blockchain company. We certainly look at blockchain and analyze the industry and think that there is a big opportunity to bring our media partners hopefully one day to the blockchain and move over to cryptocollectibles, but that's not something that we focus on today.

But that one-of-one card potentially only has value, if it only has value based on like the rareness, and there is no sort of context, there is no community, there is no story behind it and it's just rivalries, it's not necessarily different than any other sort of unique object out there, say, your Grandma's hand-knit sweater or a rare piece of art that your friend made. But the notion that these things have value is really brought together by appearance, belonging, the interest and sort of the incentive structure of wanting to own these digital objects.

What we do at QUIDD is we don't actually offer people the economic incentive. There is no cash-out to collecting. We've had people pay us tens of millions of dollars to collect visualizations, essentially, JPEGs, on their phones of a sticker of Mickey Mouse. What people sort of have the opportunity to do with these blockchain and cryptocollectibles is look at this and certainly rationalize the behavior of wanting to pay \$40,000 or more because they not only have the ability to transact, have something rare, but they have the motivation of actually flipping it and the economic incentive to do so.

**PROFESSOR BUCCAFUSCO:** So how is this, maybe Elena,

you can help us, how is this rare, right, like because clearly, we've got one, all right? [laughter] So, right? So can you explain to us the nature of the rarity here since my students were readily able to go online and just download it? [laughter] We'll give them out to you on the way out as well.

**MS. ELENA ZAVELEV:** Right. So you can, the way I think about it is just as you would think about limited edition prints or any limited edition art. So the artist decides how many pieces of the certain artwork should become available, so the photographer says, okay, I allow this certain number of copies, reproductions of the original piece to be available in the market, and that's that.

So there is, for example, when the artist created this digital work, he said, this is going to be one work, one Rare Pepe, I record this information on blockchain, and this code is unique to this particular artwork. So that's how it's rare.

**PROFESSOR AMY WHITAKER:** I know Tonya will get into this about fungibility, but just to build on what Elena is saying, there is a very specific structure on the Ethereum blockchain which many of these tokens use, which is called an ERC-721 after the line of code. It's basically a way of taking the profound difference between digital property, like the fact that we songs on Spotify but we don't own them, on the one hand, and then, the nature of art that you can buy a Warhol and that it's this exact Warhol even if there are related works. Fungibility of tokens takes in all the questions that you can throw at those two markets. And one of the biggest distinctions there is the difference between property and use, and non-fungible tokens allow you to have property which allows you to have scarcity or rarity.

**PROFESSOR BUCCAFUSCO:** Right.

**MS. ZAVELEV:** And in general, in art, the more scarce, the more unique piece is, the more expensive it is. So now, it's a unique moment in the history when digital art, even as strange and funny-looking maybe to some as this one, can be very unique and expensive.

**MR. STEVE SCHINDLER:** Right. It's really not that different from owning a limited edition work of art. I may own it, but I could also find it on the screen here or there, or on someone's Instagram account. The fact that they are using it and you can debate whether or not the use is permissible, or whether it's an infringing use, but it's really the distinction between the use and the ownership. And where I think this technology is allowed is to provide a mechanism to track ownership of

what is an inherently difficult, in a difficult medium to track.

**PROFESSOR BUCCAFUSCO:** So why, I've got lots of questions, [laughter] so one thing I'm interested in, so in the context of like real, like paint-on-canvas art, right, we can think about the experience of interacting with paint-on-canvas art as having a different phenomenology, right, from interacting with a picture of it, right? So I can show you a digital replica of the Mona Lisa, and we can all decide like, there's a different phenomenological experience between that and looking at the actual paint-on-canvas one, right?

Here, where those are, I take it, flattened, right, there is no difference between looking at the Rare Pepe that you own versus the Rare Pepe that you really use, right? Why is that valuable to people? Why is that the sort of thing that people want to engage in on the owner and collector side?

**MS. ZAVELEV:** I think there is so many, you know, ethical and conceptual questions that go into the piece of art. You know, you can call something a piece of art that's not there in the room at all, and your experience with it may be very different from looking at the Mona Lisa or the copy or Duchamp's version of Mona Lisa, right? So it's just, yes, I think that either conceptually for the artist or for the owner, for the collector, it would be super important to know that this work is unique.

**MR. SCHINDLER:** Right. But it's a very similar discussion that you have with fakes and forgeries in the traditional art market, which is where, as probably the oldest person on this panel, that's where I come from, and I'm probably the newest venturer in the digital world, ironically.

But look at famous galleries that have gone out of business recently selling fakes and forgeries. On the one hand, the value is in the thing itself, the authentic work. You can have a replica that is perfect and that fools almost everybody, and people would ask the same question: what is the difference between the two? Well, one is the authentic thing that has the value in the world in which we travel, and the other is a perfect replica. And some people don't care.

**PROFESSOR WHITAKER:** And just to say, it reminds me of two different things. One is that I remember going to Padua in Italy to see the Giotto frescoes in the Arena Chapel, and before you go see them, there are relatively small paintings up really high—they put you in this de-sporing chamber. They're really trying to purify the air, but they show you videos of what you're about to see and it's a really curious perceptual experience because they're copies but they're closer

up than anything that you'll see when you go in to contemplate the original painted work.

And it reminds me too of Ross' line of work in sports. Would you rather watch the instant replay of a sports game at home or sit in a stadium far away? So many of these things are questions of perception and whether the kind of aura of the original matters in the Walter Benjamin sense. But some of it, I think, is also about a democratization of taste. And in this case, I just want to say also a borrowing of someone else's original drawn work in a copyright sense.

**MR. BLUM:** Mm-hmm.

**PROFESSOR BUCCAFUSCO:** Do you want to add to this, Ross?

**MR. BLUM:** No, I think that that hit it out of the park.

**PROFESSOR BUCCAFUSCO:** Good. So tell me then a bit, explain to us something about the perspective of artists with respect to these sorts of things, right? So I take it from what you're telling me that artists get to make some choices not just about what they depict, but also about the nature of the release of the thing that they depict, right? So in the same way, right, you analogize this to limited prints, right, where an artist can choose the number of prints that she wants to release of her work.

Can you explain the ways in which artists, the producers of these works, think about things like the rarity of the distribution? Why would they want to choose between releasing, so this is one that only exists in single instantiation, is that right? But like [changes slideshow slide] this one may exist in more robust instantiations? Like that's a possible thing though, right, whether that is true? [laughter] So what is the thought process from the perspective of the artist in creating both the work as such and—

**PROFESSOR WHITAKER:** Yes. Well, I'll take it just because that's one of the things that I do research on. First of all, I think artists are not a homogenous class of people, so it's different for everyone, but some of the things I see commonly, and I'm sure Steve sees a lot of this on the contract side, involve a political issue of access. So if you make one painting, it can only trade at the top of the art market; if you make many works like artist books, for example, there is much more democratized access and I have seen artists change the size of the work or size of the edition visually to democratize access.

I think one of the things that is happening here is a broader

conversation about the creation of images and what is included in art markets as narrowly defined. So there is a tremendous amount of digital creativity. Like I often wonder, for example, why the CGI of *Black Panther* is not in an art museum, necessarily, but other kind of deskilled materialized art is. So I think there is a lot of this kind of politics of aesthetics, of taste.

I also think there are artists who are sometimes making purely artistic and noneconomic decisions, and that some of blockchain opens up really interesting new avenues for both economic structures and generosity. There is a really interesting project that's up right now. I hesitate to mention it because it means we'll be competing in the following, which is that Kevin McCoy, a colleague at NYU, and his wife Jennifer, with whom he makes art, made a film that The Whitney collected. They donated the film to the Whitney on behalf of the public, and members of the public can write in and apply to become owners of fifty shares in the work, and the shares are registered on the blockchain. So you have this kind of interesting mash-up of economic structure and philanthropic structure.

I think over time, artists may engage with economics of blockchain structures actively. I think there is also some resistance or allergy to talking about the market.

**MS. ZAVELEV:** There is—to add to Amy, there is one project that I know the artists are working very actively with called Snark that, for example, so—for example, called—who is an established major artist, she participated in an experiment where her work, her major work was broken down into 2,000 pieces, fragments, and then, shared or distributed and sold with the collectors. So the interesting part about that work is that it's called the AtomSpace, each piece of the work is called an atom, so it's pretty much like a little piece of the whole picture.

So in order to put the whole picture together, the collectors should come, kind of agree to lend this atom again for a screening of the work. So it's becoming a community experience, and in her own words, it's becoming pretty much a new artistic work that is becoming possible because of this new experiment and blockchain technology as a part of it as well, which is, I think, very interesting. And they are now doing other interesting projects.

**PROFESSOR BUCCAFUSCO:** So from either an artistic perspective, a legal perspective, or a financial perspective, some might wonder how these differ from baseball cards or stamps, right? So to the extent that they are subject to some rarity, they have some degree of art associated with them, and the value fluctuates as it does, are there novel

problems with respect to digital art in the ways that we're discussing that are separate from the sorts of things that we might just understand if we were thinking about baseball cards and stamps?

**MR. BLUM:** Yes. I think that if you take the Pepe that's on the screen here, or the original meme, I mean, the nature of that distribution is very much not sort of the incentive or rationale for why somebody would want to release a one-of-one, why they would only want one person to experience that meme; I think it comes from the people who are creating it, maybe there are business or personal rationales and motivations.

But sports is a very interesting concept as it comes to collectibles. Everybody has a rookie card, and anybody can become famous overnight. And so, why you might collect a rookie card with that much value today might be very different than your reason for wanting to go get a LeBron James rookie card that you know has a ton of value. Nonetheless, I think it comes from what your motivation is to pursue these items, what the community is that's telling you that there might be status in owning these items, and what you can do with them once you actually have them in your possession.

**MR. SCHINDLER:** Right. I think also just an analogy is auction houses well wine, watches, cars, and fine art, and fine art is not the same as watches. It's different. There are some avenues of distribution that are the same, which is, I think, what we have here, but I think there are a lot of different aspects.

**PROFESSOR BUCCAFUSCO:** Okay. So explain that a little bit more then. How, in what way?

**MR. SCHINDLER:** Well, I mean, fine art is, you know, questions, for example, of copyright, for example, which is very much a concern in fine art, it might not be a concern in, quite in the same way as baseball cards, although there are some images associated with them, and watches and cars. So the collectibles have different characteristics, and fine art is a very special one.

**PROFESSOR BUCCAFUSCO:** Mm-hmm. Okay, so one of the things that's come up already in our discussion, and it comes up a lot in the reading that I have done about this, which is, I think, the reading that's also available to you in your pamphlets and the links that are available for the CLE materials, is discussion of the ways in which digital art is improving accessibility, right?

And so, we've had some discussions of community, some



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discussions of accessibility, some notion that there is some kind of broader sense of sharing or value or something, democratization often comes up, and I guess again, I just want to wonder like how, right, in what way is something, right, is like a one-of-one card like this, or any of the sorts of, right, these fellows, right, in what way is this democratizing apart from the kind of general democratization that we got with the digitization of artworks, right, the fact that, right, once you like, and this is the point, I suppose, right, like once you can mechanically and then eventually digitally reproduce art, they become democratized because they just ride costlessly throughout society, in what way is this differently or more or interestingly democratizing with respect to the changes that we've already seen with digitization?

**MR. SCHINDLER:** I'm not sure it is. So—

**PROFESSOR WHITAKER:** Yes, I'm not, either.

**MR. SCHINDLER:** —I'm willing to pass this. [laughter]

**PROFESSOR BUCCAFUSCO:** Okay.

**MS. ZAVELEV:** I would go to, [laughter] either to another slide—

**PROFESSOR BUCCAFUSCO:** Okay, yes, tell me what you want to look at.

**MS. ZAVELEV:** —you have DADA there, and I haven't thought about the—

**PROFESSOR BUCCAFUSCO:** Is that this guy?

**PROFESSOR WHITAKER:** Yes.

**MS. ZAVELEV:** —yes, so that is a very interesting project. I don't know if any of you or some of you are familiar with the project, it's pretty much a community of artists that creates art right on the platform. So they call it like a conversation platform, social media, in a way, platform for the artist, and the name comes from the art—is one of the famous pieces in the movement, it's a very long piece that's done collaboratively with the community of the artists, and they are transferring this art historical concept into the digital art, which I think is pretty cool. And then, you can also purchase the works on this platform as well, and all of that is backed up by blockchain technology.

So how is it democratizing this? I think that mostly it's democratizing the access for the art. The artists that are participating in this platform are based all over the world, and in a lot of cases, they either wouldn't be able to sell their works very actively internationally, or they wouldn't be able to collaborate with that many international artists that actively create these very interesting places. And in a lot of cases, people who, there is no kind of, I think it's not very curated in terms of, so pretty much anybody can become an artist and start creating the piece on the platform.

The end result is usually pretty visually stunning, so collaboratively, the work is very, very interesting. I think that's one of the very interesting examples.

**PROFESSOR WHITAKER:** Yes. And explaining why I don't know whether some of this work is democratizing, and building on what Elena is saying, is that I think you have to distinguish between democratizing access to the appreciation of images and democratizing access to making art, and those are very different things. I'm not sure it's more interesting theoretically for a Rare Pepe to circulate than it is for a Nike ad to circulate, and arguably, some of the Nike ads are more beautiful and politically stunning as well.

But as Elena is saying, DADA is the software program that allows people to draw within, and to draw collaboratively and in conversation with each other, and one might say that that's a more actively democratizing conversational mechanism. So I mean, Rare Pepe democratizing in the sense that it's not my taste, but I'm happy for people to enjoy it, so it's not because [laughter]—factions, Federalist no. 10, etc.—great, but the uniqueness of it, I'm not sure is really the most important piece.

**PROFESSOR BUCCAFUSCO:** In that sense, is it your sense that this is effectively, like fight all of the analogies that I make if they're wrong, [laughter] like the YouTube for art, right, so Tonya talked about the kind of distributed world of creativity with Web 2.0, is this kind of similar, right, and a lot of that has happened in the realm of music and video. My sense is maybe it has happened less robustly in the context of visual art, and perhaps less robustly in ways that were monetizable, right? So at least YouTube has produced some opportunities for monetization for singers or video makers via the Google ads. So is that part of what's going on here?

**PROFESSOR WHITAKER:** So I think you have uniqueness, you have access, and then, you have taste, right? So uniqueness: so many things are unique, like the way that my coat is stitched together is

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different from every other coat; your tie, I mean, your tie is unique but your tie—

**MR. BLUM:** [laughter] Sorry, yours is very unique.

**PROFESSOR WHITAKER:** —there is no other tie like it in a very technical sense, and that's very different from the sort of governance structure of someone who as a curator at the Museum of Modern Art sanctioned this work versus someone who created a Rare Pepe and it circulates and many people vote it up democratically.

I think that if you want to look at the democratization of art, you could look at YouTube although the blockchain offers more useful structures for collectively-owned monetization of content, and I can say more about that, but I would look more at the Instagrams or the Twitters of the world. They're problematic in the sense that they maybe take four hours of everyone's time every day and [laughter] they're political rabbit holes and have all kinds of verification of information issues, but I am continually inspired by the humanity and creativity I see on both of those platforms, like the wit, verbal wit, and also the kind of pictorial verve, if I may.

So I think that's much more exciting. But the blockchain, these systems, these Rare Pepe kinds of systems give us models for how we can collectively own the kinds of distributed democratized creative production that's evidenced by the Instagrams, because those are problematic platforms because they're centrally-owned.

**PROFESSOR BUCCAFUSCO:** Right.

**MR. SCHINDLER:** I would be curious to know how many people can actually get on and buy these works. I have actually tried because I thought it would be useful and I've gone on a few of the sites, and it's not that easy. There is a learning curve to trying to actually get into one of these sites, open up a wallet and account, and then, you have to trade in a currency that's not normal. It's not like, you know, we're all used to ordering things online from Amazon, and you just click and there it comes, and this is hard.

And the other thing I just noted, and again, this is just anecdotally, is there is just a lot of works because everything is, you can see the trading of the works, you see a lot, a lot of works that have not sold at all.

**PROFESSOR BUCCAFUSCO:** Right.

**MR. SCHINDLER:** And there's just a lot of works that people are able to put up there, and whether or not anyone is able to either actually

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buy them or wants to buy them seems a little uncertain to me.

**PROFESSOR BUCCAFUSCO:** Mm-hmm. Ross, you've got some sense of the kind of technology behind these, and the economics, the finances. Can you start answering some of those questions, please? [laughter]

**MR. BLUM:** Yeah, sure. I mean, I think that, you know, I agree that the accessibility to having these put out into the world necessarily hasn't changed with either the transition from web to nodes and blockchain, or that that has alone sort of democratizing art, but it's provided sort of new and unique opportunities for these artists to not just get their work out there and collaboratively build together as everybody up here has mentioned, but then, also be able to provide, you know, potential monetization opportunities through these communities, and that as long as we can sort of keep building momentum and that blockchain keeps growing and the passion for it and the technology behind it becomes better and better, we get more and more people involved in wanting to own these pieces of art, these artists are in a really great position long-term, and these platforms are in great position long-term, to take this sort of like new opportunity and access and technology, and have it be sort of a way for them to be able to profit. That's my sort of—.

**PROFESSOR BUCCAFUSCO:** Good, no, that's great. Yes, no, this is helpful. So to what extent is, so a lot of this work, a lot of the collecting here is speculating, and like maybe the answer is yes, it's all speculating, but then, so is art collecting. But to the extent that it's speculating, right, and to the extent that it's speculating in maybe somewhat more hidden chambers, right, like in some respects, accessible, in some respects, right, hard to see, and maybe hard to see for governments and for regulators, how much should we be concerned about the opportunities for market manipulation? This is at the law school, [laughter] so I feel like I've got to start to ask like some sorts of like law-y questions. [laughter]

**MS. ZAVELEV:** Yes. I think that the questions of the provenance and authenticity for the art has been longstanding questions, and people were trying to put together the database of the auction sales for quite a while now, and blockchain is not new in this way. But I think it's a very good kind of, it's another new wave of bringing in provenance and transparency for the art market back to the picture that was my thought recently that that's probably one of the best that has come out of the blockchain technology recently, just putting back attention to the fact

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that the provenance and the authenticity of the work of art is actually important.

So blockchain here is just a tool which may be easier to use or, in some cases, much more complicated to use for a general user than just a website or an Excel spreadsheet, and so on. So I think that's it.

And just getting back to the question that a lot of, that some of the platforms, indeed, it's kind of a complicated process to actually buy the work, yes, I guess that's it, but that's probably in the development and the fact that some of the works are not sold, if you think about it, in general, in the art market, there is only a little fraction of the works that is being constantly sold and bought, and then, most of the art is either laying somewhere in the storages or in the reports or it's just sitting with the artist that can never actually get rid of it.

**MR. SCHINDLER:** Yes, it's not as transparent. And so, actually, one of the interesting things is when you go into a gallery and you're looking at a piece of art traditionally, you don't necessarily know whether it sold recently or when it sold. I mean, eventually, you might get, you know, be able to drill down and do the research, but when you go online and you look at these digital pieces, it's all out there and you can see, oh, so no one has ever bought one of these things, or, no one has ever bought anything by this artist ever, so why does it sort of call out to me?

**PROFESSOR BUCCAFUSCO:** So the students are taking photos of us for social media, and I think that this is probably not the best slide to have behind us [laughter] where they'll show up online, so I'm going to have to, I'm not sure that one is better, [laughter] that's adorable; we'll go with that.

**MR. BLUM:** Aw, that's nice.

**PROFESSOR BUCCAFUSCO:** So we'll stick with that. So when it comes then to making purchases on the various sorts of exchanges that are available, what does someone need to know, right? So as we think about what's going on here, right, like so as you're contemplating which of the various CryptoKitties to purchase, like what are the sorts of decisions that a collector should be contemplating in deciding like how to invest her money well? I mean, not that I'm asking you to like advise my portfolio—

**MR. BLUM:** Yes. [laughter]

**PROFESSOR BUCCAFUSCO:** —of CryptoKitties, but if you

wish to do so, that's great.

**MR. BLUM:** I mean, the CryptoKitties or the ERC-721's are really interesting from that perspective where it's not just the store value, but obviously, there is currencies that are used to purchase it. So yes, the visual representation of this cat or one of the other many cats that exist can be nice or appealing, and they're certainly unique, but there is a whole set of like other factors that need to be considered in terms of just how cryptocurrency markets are evolving, what sort of barriers to entry there are to that.

I mean, it isn't an easy process and accessibility is a problem to solve, and there's a lot of really smart people working on trying to solve that, so provide more liquidity.

**PROFESSOR BUCCAFUSCO:** Right. Go ahead, Amy?

**PROFESSOR WHITAKER:** Yes, I just want to say there are a couple of different things floating around this question that I think are really fundamental, and one is the difference between the economics or investment characteristic of a collectible and of like most things on the stock market that are based on operating companies. If you buy Nike stock, just to use the same example, the stock price is based on someone's analysis of the earnings, which are based on the sale of shoes, and artworks and collectibles don't have that, right?

So there is something inherently speculative or kind of market-ignoring with art, where you're either buying something that you love and you're like, maybe there is optionality here, or you're speculating because it's a kind of alternative currency, the way that it functions.

And so, some of the things that I personally think are really interesting in this space are not necessarily the market for collectible objects translated over into the digital, but if you could use blockchain to reorient the entire art market to an artist's point of view, because the artist is actually like an operating company or the closest thing that the art world offers. And so, I think hypothetically, you can fractionalize artworks and create equity instruments, so not things that just trade but shares that artists own in their own work that they can then trade secondarily on the kinds of platforms that Ross is building.

**PROFESSOR BUCCAFUSCO:** All right, so the conception here would be that the artist herself would be the like initial shareholder?

**PROFESSOR WHITAKER:** Yes.

**PROFESSOR BUCCAFUSCO:** She might then go public with

her art and allow other people to buy portions of her catalogue or something like that?

**PROFESSOR WHITAKER:** Yes. And so, this is really different from some companies like the Maecenases of the world that will buy an artwork and then sell minority shares. They're fractionalizing a collectible object, which is different. This is work I have published some of already, and I have been working on some of it with a co-author, Roman Kraüssl, and we look at artworks that sold in the '50s and '60s and have resold at auction at least once since, and asked the question, what if the artist had taken 10% less in payment when the work was first sold and retained 10% in equity?

And what we have found is that they would have vastly outperformed markets, but also, that that equity functions as a property right, right, so not a digital use right but a property right that can then be traded anytime under the logic of the Coase theorem.

And so, I think that there are really interesting kinds of financialization tools here, and some of them may happen do actually come back to what Steve was saying about the difficulty of purchasing stuff, some of which is a regulatory difficulty. My phone tries to take a picture of me every time I open up a crypto wallet [laughter] which is creepy and makes all passport photos look flattering. [laughter]

But yeah, I think there are these kind of other avenues for looking at this, and that there is some way in which the circulation of these objects is a replication of the art market and the collectibles market, but with a layer of populism and democratization of taste, which I think is exciting in many ways, but I'm not sure it actually supports the wealth creation of creativity or the kind of ownership of it. I think it's still kind of dissociated from the people who are making it.

**PROFESSOR BUCCAFUSCO:** So in that sense, it sounds a bit like a kind of digitally-mandated, digitally-enforced droit de suite or a resale royalty or something like that.

**PROFESSOR WHITAKER:** Yes—

**PROFESSOR BUCCAFUSCO:** Is that the idea?

**PROFESSOR WHITAKER:** —it grows out of that—yes.

**PROFESSOR BUCCAFUSCO:** Right, so right, does anybody want to explain droit de suite or resale royalties?

**MR. SCHINDLER:** Well, I mean, you know, that falls to me, I

mean, first of all, it grows out of sort of a very European concept of the artist having a moral right in the work that they create. We have tried unsuccessfully, or people have tried unsuccessfully here to introduce into our copyright law resale royalties on a national level. I think it's doomed to failure for the near future.

But in Europe, they do exist and it essentially means that when a work is resold on the secondary market, under certain circumstances, the artist gets a royalty and that royalty continues even though the artist no longer owns the work. And this technology, it is true, one of the uses and one of the potentials of it is to create a mechanism to, because artists can, are free to contract for resale royalties, and you can do that through this.

The one thing I do sort of wonder about though, and we haven't really talked about, and maybe hinted at with the word democratization, is the elimination of the sort of middleperson, typically, the galleries here. And I think in terms of value creation, I think it sometimes can be, I mean, I represent galleries, I'll say that, but that they play a very significant role in value creation over time. And I sort of wonder whether without that, whether you're going to see the same kind of appreciation of value in these kinds of sort of collectibles that are traded without curation and enhancement.

**PROFESSOR BUCCAFUSCO:** And so, the argument then is that they play a kind of, like a net, they produce a net benefit in terms of value creation and not merely a redistribution of value amongst, right, so it's not just like—

**MR. SCHINDLER:** I'm probably not the, probably the economist is a better opinion, and somebody like Amy is better to address that, but they certainly play an important role, and I'll leave it to Amy to address.

**PROFESSOR WHITAKER:** I think it's really interesting, just to say something noneconomic, to say that curation doesn't necessarily mean elitist taste; it also means cognitively dealing with how much sensory information we're all surrounded by. There are so many images, it's not just that I need a gallerist to tell me what's good; it's like I just need to limit my field of vision a little bit.

So yeah, economically, I think gallerists do serve a function of normalizing how much money people pay for art, and also, creating extreme buying situations and cultivations of taste that make a work seem more valuable the more expensive it is. And I don't know how a digital mechanism would accomplish that.

**MS. ZAVELEV:** I also agree, but I think that we are very far at



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this point from the elimination of the curator or gallery or any central mechanism that kind of controls the art market pricewise or tastewise.

So this is a very limited number of, you know, even though it seems like overwhelming, but it's a very limited number of art, that it actually concerns mostly digital art with the physical art, putting it on there using blockchain technology to record information about physical pieces is quite complicated because you kind of have to connect the physical work to actually a digital database to ensure that all the information is correct, and that can be very problematic. There are a lot of tools that are being developed in terms of how to connect actually the physical work to the database. But still, there are a lot of doubts about that.

So I think that for certain types of digital art, it is definitely nice because it creates, limiting the possibilities of re-creation and copying, but for some other types, it's just not there yet at all. So I wouldn't be afraid of that.

**PROFESSOR BUCCAFUSCO:** Go ahead.

**MR. BLUM:** If I could just jump back to the residual royalties for a minute, that's something that we at QUIDD certainly believe in, and while we don't work with any sort of community artists, we want to see it get there. And we introduced an aftermarket a few months ago, and so, every item that is transacted and every resale transaction, we actually do accrue revenue and royalties to the IP owners, and it's something that we're really obviously only able to do because it's digital.

But in the first three months or so of our aftermarket, we've had about 3.5 million secondary market transactions that, although on a very small scale in terms of average order value because what we're doing, selling digital stickers, trading cards, and toys, it's a fundamental belief that we believe not just digitally but in the future, that it's something that creators should expect.

**PROFESSOR BUCCAFUSCO:** That's right. I still have lots of questions. I think I'm going to ask just one more maybe, and then open it up to the audience for questions that they may have, or if they don't speak up rapidly enough, then I'll just keep asking my questions. [laughter] So I guess my last question that I'm going to ask now is like what makes us think this isn't all just money laundering? Or what percentage of it is just money laundering? And how do we know and should we care?

**PROFESSOR WHITAKER:** Okay, I think when there is a new

technology, it's really easy to look at what will go wrong, and it's an occupational hazard of being trained as an attorney—I'm not one—to do that. So you might be totally right; this whole thing might be money laundering. But I also think from first principle there is a poetic and political interest in truth, in provenance of artworks, and in the usefulness of property rights for digital work.

I've had the privilege over the past couple of years of getting to meet the co-inventors of the blockchain, Haber and Stornetta. They wrote the blockchain paper in 1991. Their work constitutes three out of the eight footnotes in the Satoshi paper. They came up with the technology originally that Satoshi then added mining to; they came up with the technology because they were worried that digital files were too easy to manipulate and they wanted us to know what was true about the past.

And I think that, yeah, people run with a lot of money laundering or currency speculation stuff around that. But actually, those two people do not own the IP here. They have not benefitted in a speculative financial way at all. But I do think that their interest in truth is the core of blockchain and that there is a huge difference between cryptocurrency speculation, or fractionalization and ownership speculation, and the first principles of issuing things over the blockchain, like value creation connected to the instruments.

**MR. SCHINDLER:** It strikes me also as a very, as a somewhat inefficient way to launder money. I mean, [laughter] money laundering in the art market is a big—

**PROFESSOR BUCCAFUSCO:** Pay attention, all. [laughter]

**MR. SCHINDLER:** —is a big, big deal now, and they're cracking down a little bit more in Europe than here, but the most recent arrest in this area in the art world was laundering money through a sort of stock, penny stock scheme through Picasso. But there, you've got like, okay, there is a work for \$10 million, that's a nice hefty chunk of money we can stick in there, and then, we can take the Picasso and stick it in a free port. This seems when you're getting down to these sort of small, little sort of collectible works of art, it would take a clever money launderer, I think, to figure out how to do that.

**PROFESSOR WHITAKER:** Right, very retail.

**MR. SCHINDLER:** Very retail. [laughter]

**MS. ZAVELEV:** I would add that blockchain, as we've heard

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today, it's a database, so the database is only as good as the information that is been put there. So if a person is putting in intentionally wrong information, then blockchain can, I guess, intensify that because the information will be there and it's hard to get rid of. But if the information is correct, then it's all good.

**PROFESSOR BUCCAFUSCO:** Great. So we've got time for questions from the audience. If you've got questions, please just raise your hand and I will call on you, and then, you will articulate them in as loud a voice as you can to make sure we can all hear you. Questions? Yes, sir, in the back. That's it, yup, you. [laughter]

**FEMALE VOICE:** Thank you. So we're talking about blockchain - - and we're also talking a little bit about how blockchain aids in transparency. So let's talk about for a second - - so it seems to me that while blockchain - - it cannot actually match a particular transaction with a particular artwork - - whether that artwork is authentic or not - - fake out there, it doesn't - - .

So in the digital world where you have, where the art lives in the ether and where anybody can reproduce it, they may not be authorized or have - - permission to, but millions of - - if there is an item on a blockchain that says Person X purchased this Kitty, there is no way to track that Kitty to any of the millions of Kitties, both compromised and uncompromised, that live in the digital world. Is there any thought about how that - - ?

**PROFESSOR BUCCAFUSCO:** You're the panel. [laughter]

**PROFESSOR WHITAKER:** I'll just start us off.

**PROFESSOR BUCCAFUSCO:** Okay, thanks.

**PROFESSOR WHITAKER:** You're absolutely right. These are huge questions and they're being resolved technologically in the case of digital works, and then, people are trying to connect the physical object to the blockchain file. For me, one of the questions, and this is a question to the attorneys on the panel and in the room, is whether you believe that there will be good faith actors and whether title is transferred over the blockchain. So for example, I have this Kitty I bought from CryptoKitties. I own it. I can prove I have ownership because the title is registered on the blockchain. I sell it to Steve on the blockchain. Steve is the registered owner. He sells it to Ross just in person and they don't actually transfer it, like he's forgotten his private key or something, and then, Ross wants to sell it again. What happens?

I think these are questions we don't know the answer to yet, and they're important questions to ask. I like to think that title will be ironed out in a legal sense so that maybe the blockchain record will stand, but then, if I registered it on one company's blockchain. Yeah, so this is all problematic.

**MR. SCHINDLER:** Yeah, and I would, I mean, apart from the digital world, and you're correct, all of the efforts now to put provenance on blockchain face a lot of obstacles, including the fact that this sort of garbage-in-garbage-out thing, and who is entering the information, I mean, there are a lot of questions around all of this. And normally, even the tracking of the object on the blockchain doesn't identify the owners, for example, it doesn't necessarily identify the price. What you can just see is there was a transaction of this work on this day, but if you start today, there is very, not a great way to be able to go backwards and really have greater assurance that you're dealing with an authentic work, that's absolutely right. It's just software.

**PROFESSOR WHITAKER:** Yes.

**PROFESSOR BUCCAFUSCO:** Go ahead, yes, sir?

**MALE VOICE:** - - so when you talk about like the value of the artwork - - physical art - - a lot of the value connects to authenticity and scarcity of - - talk about earlier, is the value around digital works centered around scarcity or is it more like kind of going back to Spotify or something where it's actually the popularity, more people - - ?

**MR. BLUM:** You know, we talk about a collecting stack and there's all these different pieces to what creates value, and who you are can impact that. But I think the notion, where you see, the notions of rarity and scarcity can be a little bit different, and I don't know if you guys play videogames, I don't play these games but if you're familiar with Fortnite or Overwatch or something like that, you go into their shop, they tell you this item is legendary, they tell you that based on the price point that it's set at, but in actual game play, you can actually see that item relatively frequently, and it's not actually that scarce. There is no sort of like limited quantity of them available; everybody who is willing to pay that price to own that object gets to own a, quote, unquote, "legendary object."

So what sort of creates value isn't just the notion that something is perceived as rare, or that somebody is telling you it's rare, but it has to come, why you sort of get value out of owning that object in the context of the game is everybody else that's also there doing it, that certainly

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provides value. It gives you sort of that rationale to even transact at that price point, and it gives you sort of a little bit of comfort knowing that if you're willing to spend that price point, that there's going to be some sort of like social feedback to it.

So I think that it's a real mixture of not just the inventory count, or just that it's a limited edition good, but it's also a piece of utility, what you get out of doing it, is there a social element or a community that's around it, and all of those can sort of, you know, what the right proportion of those is on an individual-by-individual basis can change, but they all sort of contribute to what creates value.

**PROFESSOR BUCCAFUSCO:** Good. I think we have time for another question? Other questions? Where am I looking? You're hidden behind the pole.

**FEMALE VOICE:** Yes. [laughter]

**PROFESSOR BUCCAFUSCO:** I trust that there is someone behind the pole because everyone is pointing in that direction. [laughter] So the serious person behind the pole.

**FEMALE VOICE:** So I have a question about - - blockchain - - .

**MR. SCHINDLER:** It's a problem.

**PROFESSOR WHITAKER:** Yes.

**MR. BLUM:** Yes.

**MR. SCHINDLER:** It's a problem. People are wrestling. I mean, you're referring mostly, I think, to some of the regulations in Europe which require companies to remove personal information from their databases, and I know that I'm not an expert in this, but just in casual reading, that this is something that is driving a lot of people crazy in terms of blockchain. Maybe someone else can answer that, but it is a significant problem.

**MR. BLUM:** Yes, I mean, I don't know that I have as much of a take as it relates specifically to blockchain, but we definitely deal with GDPR and the regulation, and it has to do certainly with the server structure, how you store the data, where those servers are even located, and that presents a ton of obstacles for something that's meant to be ubiquitous and not tied to any specific location.

**MR. SCHINDLER:** Right. And also, for a system that is theoretically immutable in that you can't subtract from, you know, that's the one difference, technological difference of blockchain is that it's additive, as we heard, so taking something out of it is complicated.

**PROFESSOR WHITAKER:** Yes. And I think there is also a connection to really important governance questions about the public or private structure of the blockchain. One example you may already be following that is interesting in this area, not related specifically to the European legislation, is the company, Artory, which is, I think, one of the most successful companies in the blockchain art space right now. Artory has made a decision to have double-blind anonymity in their files.

So they registered the sale of the Ebsworth Collection through Christie's in the fall of 2018, and they themselves may hear who the collectors are, their system registers the artworks in such a way that they can verify the work and the record of the work.

So I think this raises interesting structural business strategy questions of whether, if I'm a collector and I'm really obsessed with data privacy, would I have 100 different accounts so that people couldn't aggregate what I own, so I think it's a really, really interesting point.

**MS. ZAVELEV:** Yes. One of the interesting things about Artory, I think, is also why I particularly like this project, is because the registration of information in their system comes from some sort of event. So if there is a transaction, a verified event, so if the verified auction house or an insurance company, or something like that, can send supportive information that the transaction actually happened, then the information is being recorded. So this kind of avoids or helps to avoid the risks that the information has been entered into the database is incorrect.

**PROFESSOR BUCCAFUSCO:** Awesome, great. So that's the end of this panel. There will now be a short break for you to get up, stretch your legs, use the restroom. We'll meet back here in 15 minutes, is that right, for 4:45 for the next panel. But please join me in thanking this terrific and outstanding panel for their—. [applause]

**PANEL 2: ART LAW AND BLOCKCHAIN**

TONYA M. EVANS\*

DEREK FINCHAM\*

KATYA FISHER\*

JEANNE SCHROEDER (MODERATOR)\*

**PROFESSOR JEANNE SCHROEDER:** Okay, welcome back. My name is Jeanne Schroeder. I'm a professor here at Cardozo. I think this is an all-legal panel. I specialize in corporate, commercial, and financial law. I also write extensively in property theory. I think one of the things we want to discuss this second panel is: what are the legal implications of the things we talked about in the first panel? I do teach a course called Electronic Commerce. I find a lot of writing on electronic commerce in blockchain.

For one, a lot of people assume that because the technology is new, there's no law that applies. In fact, there usually is law that is directly applicable. And it may not work the way that people hope it works. Maybe we need amendments to the law. And two, related to that, we heard a lot of discussion. For instance, today we heard about property interest, etc. in title and we need to discuss whether or not those so-called property interests are in fact legally recognizable interests, and what the implications of those things are.

Now, on my panel today is: you've already met Tonya who's Professor of Law and Chair of Intellectual Property and Technology Online Programs at University of New Hampshire School of Law. And we're being joined by Derek Fincham who's Professor of Law at South Texas College of Law, Houston. His research interests include art law,

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heritage theft, antiquities looting, and repatriation. Then, Katya Fisher who's one of our proud Cardozo alumni. She is a partner at Fisher Cataliotti P.C. and member of the Board of Directors of Level Blocks and an advisor to IBM's blockchain accelerator and to Mark Bell Capital.

Now, to start off, I'm going to give each of the panelists a moment to speak a little bit. Tonya has a few points that she wants to finish up from her presentation earlier today. Tonya?

**PROFESSOR TONYA EVANS:** Thank you. So, the purpose of the brief remarks that I gave earlier was to level set in terms of the technology, generally speaking. But what I thought would be helpful and in fact, I'm going to take one step back to this slide and then go to the fungibility issue. Because I think it's important to distinguish between what you are probably more familiar with in terms of crypto currencies that would be fungible versus the non-fungible token and what that might mean. In order to discuss that, we should also talk about the fact that, I think you're aware that we have really hundreds of different blockchains. It's not a one size fits all thing by any stretch.

Much of what I told you in the beginning focused specifically on how the Bitcoin blockchain functions. It was created ten years ago. So, I also want to keep that in context to suggest that we are very early in the build of the infrastructure. The stack that will support blockchain technology. We'll be talking about decentralized applications and smart contracts and how that plays into ownership and transfer of digital art or crypto art.

The precursor to that is how you even get there. The second big-ticket blockchain is the Ethereum network. You heard from the last panel—someone mentioned an ERC 721. The ERC stands for Ethereum Request for Comment. There are many, many, many different ones. That's how we get from ERC 20, which I'll talk about in a minute, to ERC 721. But that comes from the language of tokenization of the Ethereum blockchain. The difference between the Ethereum network and the Bitcoin blockchain: the Bitcoin blockchain was created to solve a double spend problem.

We wanted to make sure when A sent something to B that A in fact owned it. Even though it appears that we exist in a digital world, it's really a digital veneer over the double ledger entry system of currency. So, if I have something and I send it to Devin, my Wells Fargo or USAA will have to do settlement on my side, his bank will have to do settlement on his side. It's still the age-old, 20<sup>th</sup> century, dare I say, before.

What we're talking about with the Ethereum network is a blockchain that was built for a different purpose in addition to having its



own native currency, which is Ether. It was also built to support programmable transactions. What do I mean by that? Decentralized applications that can run on top of it, as if it were its own world computer. So, in addition to supporting its own native currency like a Bitcoin blockchain, it does all of these other things. And it's not to say that other blockchains couldn't do it, but you need to understand that, because smart contracts and decentralized applications will come over daps as well.

The other way to have this conversation. We're talking about crypto assets; it really is this class. There are at least seven different things that we could name right now that are not specific currencies, but operate in other ways. When we think about currency, we're talking about this medium of exchange that one dollar will always equal another dollar. We're talking about fungible assets. Dollars, apples, currency, commodities.

And so, from that perspective, that's the fungibility that we understand with exchange, with stores of value, things of that nature. What makes it unique? And by it, I mean when we're talking about the uniqueness and scarcity of crypto assets generally, crypto art specifically. It's because of the code that is used to create these tokens, the ERC 21 standard. About ten lines of code that says each one is unique, as if we were buying property.

Each parcel of property is unique in a certain way. So, that is the way if someone creates an ERC 721 token to represent purely digital art or even tokenized art. That's how you would be able to track ownership. That doesn't mean that we wouldn't still have the same problem that we have from property, of course. Who are these crazy people that pretend that they own this property and rush to the Register of Deeds to file? We may not be able to solve all of those issues but in terms of provenance, we are far more ahead in the Web 3.0 world than we are in the current iteration of it.

Where we have verifiable, provable methods of authentication, provenance and what we will also talk about in terms of downstream participation for an artist. My last point there is that this is happening a lot in the music space as well. Ujo Music is a fantastic example of that, where it is up and running—it being the Ujo Music platform on top of Ethereum where there are very prominent artists selling their work and directly connecting with their purchasers or their fans.

The way that this could be more relevant for art in particular is that each time that token is transferred, a smart contract can automatically make a micropayment back to the original creator. Even when they no longer have control over that particular artwork. So, downstream market participation is one of the most exciting things that I think could happen in this particular area in addition to some of the other things that we'll

talk about as well.

**PROFESSOR SCHROEDER:** Okay thank you. Derek?

**PROFESSOR DEREK FINCHAM:** Okay, thank you. I come to this panel and to this conversation as a very much a new student of blockchain and the promise that it can offer. There is definitely a lot of excitement and possibility surrounding the technology. So, I think it's a good moment to think about what might a different way that the market works, the way that the antiquities trade works, what might that look like? So, we're almost kind of putting on, in my view, we're writing science fiction. What will the art market look like in fifteen or twenty years? What should it look like?

There's also a thing we need to be careful of which is that people will joke that every couple of years a tech startup will reinvent the public library or a taxi cab or a public bus. So, some of this stuff already exists. So, when we think about a smart contract, I don't know that we want to call them smart. They're kind of dumb. They just do one thing, right? Or a couple things based on, from what I understand, from what the code tells the contract to do. So, that kind of already exists in the art world. There was something in 1971 called *The Artist's Reserved Rights Transfer and Sale Agreement* by Seth Siegel and Robert Projansky. It was published in the New York Times and it was used throughout the United States by some artists.

But the problem was, do you have that contractual power to get art buyers to do that? One aspect of that contract was, there would be, as Professor Evans says, a downstream, revenue stream for the artist. Kind of a contractually implemented artist resale right. Given that we've had obstacles getting that legislation passed at the state level and the federal level, it might be that contract is the way to get artists' resale rights to happen.

So, a couple things to maybe think about. There is a need in the art trade and in particular, the antiquities trade for some transparency, for new ways to think about justifying ownership, justifying provenance, thinking about the history of objects. So, blockchain might allow us the possibility to do that but only if the programmers and the people creating it want them to. We need to ask some tough questions maybe with some of these initiatives.

Who's going to benefit, who's writing the code, who's deciding what happens? Why should things be anonymous, why should they not be anonymous? There are some hard questions and I think we'll continue that conversation. Artory was talked about a little bit in the first panel. That seems to be one of the leading blockchain initiatives. But there are a lot and some of them come and go.

There's another one called Pieces of Eight, which is attempting to raise money through a cryptocurrency to basically loot underwater archaeological sites under the oceans. They've made claims that there's \$100 billion worth of gold from Spanish ships that were wrecked on their way from the New World back to Spain. The problem is nobody's ever had a profitable shipwreck treasure excavation. What they have done is destroyed the archeology and created a lot of problems.

So, we need to be careful about getting so excited about some of the possibilities of blockchain that we don't ask the good questions and think about what are the consequences? I look forward to continuing that conversation.

**MS. KATYA FISHER:** First of all, I'd like to thank Tonya because I speak on blockchain panels quite frequently. And no one ever actually takes the time to explain what blockchain is. I think you did an amazing job, so thank you for that. I think maybe I understood for the first time. I am very proud to be here. I am a Cardozo alum. I graduated in 2010. While I was at Cardozo, I was extremely interested in art law, so I interned in the art law department of Herrick Feinstein which I think is probably the best-known art law department.

I worked at the art loss registry—I did quite a bit. My father actually is the Director of Research for the Claims Conference. He's one of the leading figures in Holocaust art restitution research in the world, so I learned quite a bit growing up about databases, restitution, the art market, and all the problems inherent to it. When I opened my own practice, I concentrated more on working with tech companies. I've worked with a lot of art tech companies. I know a lot of the players within the industry and I've seen how it's changed tremendously over the last ten years.

I've been doing quite a bit in the blockchain and digital currency space for the last two years. It's been something extremely exciting, and I certainly am very happy to be here today to be talking about these two areas and how they fit in with each other. I think that when we talk about art and blockchain, we're really talking about a number of different things, because blockchain, it's a technology, it's a tool. It's not anything more than that.

The question becomes, what are we talking about? It's very important to understand the distinctions. So, number one, e-commerce. When we're thinking about digital currencies, digital payments, how to actually transact within the art world—this is something that's extremely important—you're talking about artists around the world, galleries around the world. How are they dealing with these payments? How are they transacting? How are they securing payments? How are they making sure that that's done appropriately?

The next is that art as investment. There's a lot of discussion right now about the idea that you could fractionalize art ownership through tokenization, through the ownership of a digital asset that represents something that's perhaps equity or asset backed. There's digital art, which is what the first panel was discussing, which I think is a really exciting area, because right now, it's in such early stages that we're all kind of laughing and rolling our eyes and saying, "this is so silly." But we're not seeing the big picture if that's how we're looking at it.

First of all, people love to collect. They love it. For years, look at people's Instagrams. I used to work with an app called All City Arts, where the whole purpose of the app was to take pictures of street arts and upload it. And you would be the coolest kid on the block because of the fact that you had the most uploads. People want to own something. So, that's the first issue.

The second is, when we talk about digital art, you have to start thinking about what this could turn into. This has huge ramifications for the gaming industry, for the music industry, for the film industry. How we look at art is going to change tremendously over time. And then the last is provenance and tracking. Obviously blockchain is a fantastic tool for its transparency, for insuring that you have full provenance on a work. But there are a lot of questions inherent to that, like, what do you do with physical works of art? What if somebody lies in terms of what they report on the blockchain?

Or what about the fact that there aren't that many people in the art market who want to reveal that kind of information on a blockchain, right? That takes away all the fun of the art industry. So, there are a lot of questions there as well. So, that's why I'm very excited to be here and talking about this stuff.

**PROFESSOR SCHROEDER:** Great, actually some things I'd like to talk about with this panel. The first panel talked a lot about the crypto art itself. But what I'd like to talk about a little bit with all three of you is that, how does blockchain relate to more traditional forms of art—music, fine arts, cultural property, antiquities? And one aspect of that, the first panel talked about and Katya just mentioned, is the concept of tokenizing interests in art. Now, you can say, yes, you're going to sell coins on Ethereum or another blockchain that will represent interests in arts. But does that have any legal status whatsoever—having a token that somebody says is an interest in the artwork?

**MS. FISHER:** Basically if you think about a token in that context, don't think about it as a coin. Just think of it as a digital asset that's the same thing as a share certificate.

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**PROFESSOR SCHROEDER:** That's what I want to ask: it's not a share certificate; how does it fit into the law?

**MS. FISHER:** So, are you talking about something that would be a token that represents a physical asset? Or some kind of fractional ownership of digital art?

**PROFESSOR SCHROEDER:** A fractional ownership of, like the Picasso.

**PROFESSOR EVANS:** Physical, tokenized.

**PROFESSOR SCHROEDER:** If you could talk about that.

**MS. FISHER:** People have talked about that. I've met some people who have said that they've engaged legal counsel to come up with ways to show that that's not a security interest. That that's a direct interest into the Picasso. I would beg to differ. I don't think that that's possible. I think that that's quite a risky business. I think at the end of the day, what you're looking at is the token itself. If you have a token that represents digital art and the digital art and the token are one in the same thing, we're talking about something else.

But if you're talking about something that represents ownership, you're talking about a security interest. So, all you're talking about is instead of a piece of a paper, I have a digital token. And there are wonderful, wonderful reasons to do that. I mean, it becomes much easier to manage lots of investors in one piece of art if you're doing it digitally. That's honestly the biggest and best reason to do it.

**PROFESSOR EVANS:** I agree wholeheartedly and I do want to continue to make the distinction between something that is a native digital asset versus something that is a real-world asset. Here, we're talking about art. We could also be talking about physical property like a home or land. There are a number of projects going on in the pure, real property respect. I can think of some counties in Illinois that are already trying to transition their deed system to some form of a blockchain-based representation or registry.

So, that's going on with a lot of different real-world assets and how they might be represented in token form. But it sounds like securities to me. I'm no securities lawyer, but I would be very hesitant to categorize that or write a legal opinion that would say that it was something other than that.

**PROFESSOR SCHROEDER:** I was thinking that if you have actually the physical, the painting, the Picasso, legally, that's a good. And transfer of that is governed by the Uniform Commercial Code. One of the parts people talk about with ownership and title, one of the fundamental principles of article two which governs goods is that except - - otherwise provided, there's a lot of exceptions. That the rights and interests of buyers, sellers, creditors, donees, etc. are determined regardless of title. By physical possession is probably the most important thing. That's what we're getting at. When you talk about title in goods, that has very, very little legal resonance. So, it doesn't really give you physical control over the goods when you're talking about physical artwork, physical control. Now, what you could do is, economically, you could transfer the artwork into an entity. And then the entity would sell interest.

That would be almost a security under securities law. And then it would be governed, the very nice ways of doing that but it raises a whole—.

**PROFESSOR EVANS:** Well I think this brings up both on the properties side and then, I'm an intellectual property lawyer and law professor as well. So, I'm constantly thinking of how this fits in. I taught real property for ten years so what does that mean for the bundle of rights? And how those can be disaggregated and you have use and enjoyment, also rights to exclude, all of these other things. And whether it complicates it unnecessarily to be in tokenized form. I'm not against it. I'm agnostic about which way it's going to go.

So, we're just talking intellectually about the what ifs of what might be. The fact that you can do something doesn't mean that you necessarily should. And so, I'm far more interested and excited about the pure, digital asset arena and what that means for digital assets that were difficult to protect in the Web 2.0 world—that we have a new chance to do something different and empower artists in that respect. But I appreciate the comments about when we think about possession and possessory interest within the bundle, how this might be complicated and not even getting to the securities.

**PROFESSOR SCHROEDER:** Right. Actually, in commercial law, possession as a property theory is the right to exclude others. And physical possession is one way of doing that. Unfortunately, in the statute UCC, they use the word "possession." Physical possession, not the right to possession. So, that's going to be a problem when you're talking about physical art. Now, you talked about copyright, that's another whole issue there.

**MS. FISHER:** I mean, just sticking with property and physical art for a second before we move on. I will tell you what my skepticism is about all this discussion. About fractionalized ownership of major artworks. I think that there might be a market for it on the very, very high-end level. I'm not going to opine from a business perspective. What I'm concerned about with it is what's the reason why fractionalizing, using this new technology, is such a great idea? It's because of the idea is that the average person out there, even if that person isn't a credited investor, can't afford a \$100 million artwork.

But that person might be able to afford to invest \$50,000, something like that. So, you could have a group of people who are all going ahead and investing into this piece and are able to reap the benefits of the fact that the piece is going to go up in value supposedly over time. In a way that you weren't able to before because the technology makes it much easier to manage all of these people, right? Because if you were doing it in a manual way, you might not want to deal with millions of investors.

The part that concerns me is, when people talk about tokenization of physical real estate, if everybody invests and owns a little equity piece of the Empire State Building, we know where the Empire State Building is located. It's not going anywhere. Who's going to be in control of that artwork? Where's it going to go? What are people going to do with it? Who gets to say how it gets displayed and what happens? Most of the works people are talking about now is people are talking about owners of major works who maybe want to create; they want some liquidity.

They want to get some cash. So, they want to go ahead and have a portion of their ownership tokenized so that they can add some liquidity to what they're doing. But I'm owning this Picasso and I don't necessarily know where it is. I mean, if we're talking about a big museum piece or something like that, there are protocols in place, but I'm concerned about those types of things.

**PROFESSOR SCHROEDER:** Derek? I don't think that is, when you talk about cultural property, but it's to be a major issue.

**MR. FINCHAM:** Yeah and part of, I come from the UCC and art context from a little bit of a different perspective which is that, the art market has traditionally been very good at avoiding responsibility under the UCC. So, they don't take obligations in terms of the major auction houses don't really warrant that a work of art is authentic. Sometimes they do, what they usually do is say, "It's my opinion that it's a Picasso." So, you can't sue someone for an opinion. So, they've effectively gotten around a lot of those rules. I'm pretty confident that

the art trade will continue to do that no matter what blockchain looks like, if it wants to do that.

One other thing to think about, do you really own a Picasso? You do, I guess. But you can't throw it in the trash. You could do that but who would?

**PROFESSOR SCHROEDER:** There's no world right in the United States. You can burn your Picasso, you can.

**MR. FINCHAM:** Well, there are moral rights for living artists. And Picasso's dead so I guess we could do it. We could trash his work if we wanted to.

**PROFESSOR EVANS:** This has taken a terrible turn.

**MR. FINCHAM:** Yeah, it is right. That's what we lawyers think about is the worst case. But art sometimes isn't quite like other property. It is and it isn't. Because we all kind of think that's awful if somebody destroys a Picasso. Nobody gets to see it again. The way we talk about it, the way we think about it, our emotional reaction to art doesn't treat art like other property. We try to use these property ideas and sometimes the fit is very neat and it works and then sometimes it's not a neat fit theoretically with what we try to do.

You think about possession as the right of exclusion. Some art collectors only want to work at a work of art for themselves. I think that's a rare art collector. I think every art collector I know wants to show it off, wants to say, "I bought this." Maybe not to everybody, they want to let you in and say, "I bought this."

**PROFESSOR SCHROEDER:** But it's the right of exclusion that they're the ones who decide where to show it, when to show it, etc. Of all intellectual property, many people can use it in terms of seeing it and enjoying it. But exclusion is power over it. Now, your question, the tokenization of art is really, when you talk about art as an asset class, sometimes it seems like a more cynical way of looking about it. Whether you're just buying this token, where's the art? It's in some food court or something. And, you know, who controlled it? Well, you can have a dow or each token can vote on what you do with it. But really, it is art, it's looking at art in the most cynical way possible. We want to talk about law but law isn't everything. It's not morality, it's not aesthetics, it's its own thing.

One thing that I think is extremely exciting about blockchain, if it ever can really be scaled up in the way we talk about, is precisely what you were saying about payments, micro payments. We talked about



Picasso, but let's not talk about Picasso. Picasso the works aren't selling for \$100 million. You're talking about artists, musicians are a very good example, who do want to monetize their art, not the cynical values but they want to eat?

But they also want their art to be performed. They want people to hear it. And that's been one of the real problems that we all know if the Internet is how you get your information out there or your art out there—getting anything back. You can go on YouTube, you go on Patreon, etc. and get advertising or on Patreon you get sponsorship, etc., but it's very hard to move very small amounts of money.

**PROFESSOR EVANS:** So, that kind of takes us back to the discussion of smart contracts and how this all functions. So, we talk about these micro payments. How it actually happens, kind of goes back to this concept. I will say and it came up earlier, this idea of smart contract makes lawyers heads explode. Because we know as a matter of contract law, this term is a - - neither smart nor contract. We hear that on every panel and it's true.

What it can do, and I practiced for ten years before I started teaching, mostly on the literary law side. I could think of a number of different ways that a smart contract could function to facilitate the performance of a legal contract. We have started to hear also a legal smart contract to push the point that a smart contract is not a contract. It actually is also code that works in an if-then function. Think of it like the most rudimentary way to think that Nick Szabo wrote about it is the vending machine example.

I have \$2.00, I going to buy a ginger ale, it costs \$1.50; I put in \$2.00. I get the ginger ale and \$0.50 back—if-then. That type of technology, that type of coding, already exists. And now we can push it into this context. In fact, I participate on the IP Summit working group, I should say, for the Accord Project. We're trying to figure out ways to reduce certain parts of a legal agreement to the performance of that transaction. On the literary law side, that means that my client's royalties escalate every time there's 5,000 sales of her book on Amazon.

Amazon would be the oracle that would inform my smart contract. When it hits 5,000, bada bing, bada boom—she's paid immediately. She doesn't have to pay me \$425 an hour to do that. There are other things I can do; I'm not going anywhere. But I could spend my time with good lawyering on the front end. We can also not have to have an agent do that. Go sell the property, I don't have to call you to make sure that this happens, we don't have to have reserves. They're like a whole host of other areas to inject efficiency in.

And the same could be said in the art world. Where someone who is a creator initially and again, on one hand, in the purely digital - - of

the world, but also for tokenizing. I'm going to focus on the native creative side. That person will always be connected to that cryptographic representation of this artwork because they're inseparable in that way. So, every time that token exchanges hands, or wallets, I should say, a bit of that money goes back. That's how Ujo Music works in the music world. So, that's really exciting.

**PROFESSOR SCHROEDER:** Would you explain that a little bit? How Ujo Music works?

**PROFESSOR EVANS:** So, with Ujo Music, artists sign up through Ujo and Ujo has this great representation. It's a pie chart and I see crypto. So, I can see their website where they have a great graphic representation of precisely how much the platform keeps for the privilege of being a new type of intermediary, but one that is purely transparent. I think there is at least 20% that goes to the artist and they also participate every time something is resold. So, that's a constant stream of micropayments that doesn't exist today. We also never know when an artist signs with a major label or even an independent label, how much that music is going to be worth. Sometimes it's not really worth a lot of money until that artist has passed, so there are a number of reasons why someone would want to remain connected. We don't have that resale right, but you can cryptographically build it in now. The law wouldn't have to change because the technology did, and so that's another really interesting way that would function.

The really great things of what we do here and those are answers that we are still figuring out, should there be a kill switch built in as well that says, if this goes terribly wrong, this smart contract, then there's some type of back door to undo what's been done. From a libertarian cypherpunk thing, that sounds horrible, but for reality and where we are, to make users, the majority of users comfortable, that may be what has to happen.

**FEMALE VOICE 2:** To discuss this and understand it better, copyright is a bundle of rights, right? So when we're talking about music as an example and we're talking about the music industry, we're talking about so many different rights that are inherent to one download. We're talking about the person who wrote the song. We're talking about the person who sang the song. We're talking about the producer who produced the song. We're talking about the ability to perform the song, cover the song, play the song at a restaurant, play the song on TV, play the song on a commercial, play the song in a film, so the issue is right now, there's about \$2.5 billion sitting in a black box of uncollected royalty payments where nobody knows where it's supposed to go and

who it's supposed to go to, so blockchain technology could solve some of the problem in the fact that the smart contracts will go ahead and just execute the payments everywhere and it becomes a little bit easier, but that's assuming that they have the right information. So, the problem with a lot of songwriters is they don't necessarily record their copyrights, right? They fight with each other. So, what happens if the wrong person gets paid, so these are the types of issues that concern us, as attorneys. Turning from music to digital art, this becomes even more interesting. Actually not more interesting, but it becomes equally interesting, which is that digital art, when we were talking about non-fundable tokens on the first panel and this idea of art collectibles, the concept is that now all of a sudden, you can do something that you were never able to do before, which is you can own something that's unique and one of a kind within the digital space. So, this is amazing because all of a sudden, the technology not only has solved the double spend problem for currency, it has for art, as well. Meaning that instead of just being able to go ahead and just transfer all kinds of copies of songs, artworks, film, whatever around the world in two seconds in an unlicensed, illegal manner, now the technology is there that you would be able to track it and you would also be able to have one of a kind digital assets, which, over time, let's assume, on the last panel, we were talking about how you can still download Pepe, but imagine a world in which we get rid of that, a world which everything is on blockchain and you're not able to create those copies anymore, so that's when it becomes really interesting.

**PROFESSOR EVANS:** This is actually something that's happened and a conversation that goes on. I'll give you two examples from recent presentations, one I saw down at South - - when I was there and another in another place. So, supply chain is a huge topic of conversation in a number of different industries, and I think of it in the healthcare industry in particular and on the pharma side, as well, when you're trying to track the authenticity from beginning to the time it goes into someone's mouth, right? And the obvious reasons why that would be critically important. Another use case that's no longer a use case. It's actually going on is in the seafood industry, which is very important to someone like me from New Hampshire, that oyster or that salmon says it's coming from a particular area that they actually have along that supply chain from being pulled up in the boat to the time that it hits my Whole Foods and everywhere along the way. IBM is introducing that as well. It's being introduced for diamonds and things of that nature, and it's a really, really interesting way. So, those have been some interesting ways that might play into, the point is well made and when you're talking about illicit areas, that's the whole point where you have

something where no one trusts anyone in how to keep blood diamonds, for example, out and things of that nature, so this sounds like it's another area or arena that's going to be problematic.

**PROFESSOR FINCHAM:** Well it's a - - article and I cited it. Jen Krater authored it, and I don't know who her co-author was but yeah, it's a good idea, and so who knows what form it's going to take. It could take lots of different forms. So, you talk about objects that we don't know about. We do know kind of sort of what illicit objects look like, and so if there's material from, let's pick Yemen, where there's a conflict, and we know, or archeologists know generally what kinds of objects come from Yemen, so if an object comes up for sales, let's say at a market and it said it's from the Middle East and it's vague intentionally, well, it might be checked against an object registry or something else to say it raises some red flags. You need to do some heightened scrutiny of that object. That's just one way it might work.

**FEMALE VOICE:** I think what he's saying is a registry is only as good as, you know, garbage in, garbage out. There is so much incentive for people not to put things on the registry. Now, the pressure would have to come, really, from the buyer's side where people will not buy something unless it can be identified on the registry, but there's, if you're talking about illicit sales, it's like anything else. That's going to be on the black market and it's getting it onto the registry that's the problem.

**PROFESSOR FINCHAM:** So one question I had for my co-panelists is can you fake a blockchain? Is it hackable? Some, I think some cryptocurrencies are starting to be hacked, I believe.

**PROFESSOR EVANS:** It's not, when you hear about the, there are a number of different things that can threaten a blockchain, a 51% attack or there are lots of talks of what quantum computing might do, but when we hear about hacks, usually the headline of the news is someone or some, first of all, it could be a honeypot, like an exchange, where they were not taking good care of the crypto in their hands because if I send crypto to an exchange, I've lost control of it. It's under control of their keys and so it's been compromised already, but it is access to the crypto to redirect funds has been the issue. The 51% attack is always going to be a consideration, as well, so it certainly is going to be conceivable. The larger the network and the longer it's endured. In ten years, it makes it more and more difficult. I think in the industry, we're starting to back away from always immutable forever because the next day something could happen, right? But the strength of a network,

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based upon the number of nodes over time and the number of blocks, etc., makes it more and more and more difficult until the next technology comes to compromise it.

**MS. FISHER:** Blockchain is a ledger, right? So, when you're talking about a ledger that's going to record analog information and put it on the blockchain, there's an opportunity to lie, of course there is. There's an opportunity to withhold information, to fudge the information you're putting in. Once the information is on the blockchain, it becomes immutable. So, the thing is, when we're talking about digital art, when we're talking about digital artworks, music files, entertainment, film, television, gaming, etc., you have an incredibly strong technology for all of those things. When we're talking about the recordation of artworks, physical artworks and putting that information onto the blockchain, we're talking about what's a really great tool. It is. It's a great tool. It's something very useful for that part of the industry. I don't think that it's the grand savior of anything because obviously there's a lot of room for error.

**PROFESSOR SCHROEDER:** Our work here is done. Well, Devin?

**MR. DEVIN NEWMAN:** I'd just like to thank our moderators and our panelists here today. Thank you. [applause]

A brief note is we did get all our moderators and panelists gifts, of which I also made my first trip into the crypto art world and it took me like five hours to figure out how to do it and I have an undergrad in computer security so there's a certain level barrier to entry here, so I've really appreciated the discussion we've had here today. I think it's been enlightening, illuminating, certainly very interesting, so once again, let's thank all our panelists and moderators. [applause]