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Quantum Copyright Law: Schrodinger's Cat, Banksy's Shredder, and Art on the Edge

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QUANTUM COPYRIGHT LAW: SCHRÖDINGER'S CAT, BANKSY'S SHREDDER, AND ART ON THE EDGE

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ABSTRACT— An object has been assembled by artists I know that presents a fascinating set of conundrums about the relationships between quantum physics, shredders, random surprises, the value of art, and copyright law. Seems fantastical, right? And so it is. The object of concern is a metal box a little under four feet tall, about eighteen inches deep, and a bit less than three feet wide. The box is welded together along all twelve of its edges. It has an opening across one side. And there is a small control panel on top.

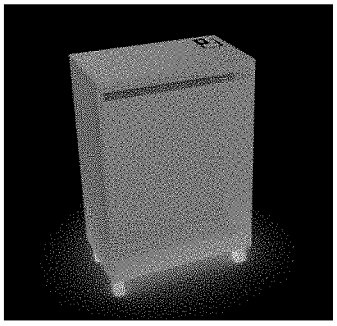
Before the box was welded shut, a set of objects was placed inside. The objects include a shredder with a "switch" of sorts that makes it operate, but only one time. That single time is triggered by insertion of an art work in the slit on the side of the box. The shredder in the box will then run, but in a way that makes it impossible for any observer watching when the art work is inserted to tell whether the art actually runs through the shredder. In all cases, the shredder will make appropriate shredding sounds to prevent humans from figuring out what occurs. The art work enters the box and disappears from view. The box will then contain either a shredded piece of art or an intact art work, along with an inert shredder. The only way to discover what occurs after the art work is inserted in the slit is to open up and thereby destroy the box and any copyrightable expression it and its contents represents.

[*] Professor of Law, New York Law School. Primary thanks always go to my artist wife, Elizabeth Langer—my best friend, partner in life, muse, critic, editor, and supporter. Thanks to my colleague and friend Richard Sherwin for reading this essay and peppering me with questions. Bennett Lieberman, a friend of Richard's and a physics trained conceptual artist, taught me some science, and checked the correctness of the physics discourse in this piece. *See* Bennett's web page at http://www.bennettlieberman.com (last visited Oct. 3, 2021). A very special thanks go to Girardeau Spann, my longtime colleague at Georgetown and good friend to this day for his sophisticated and appropriately wry comments about this essay. I dedicate this work to Steve Goldberg, another long time Georgetown colleague and friend, who shockingly died much too young in 2010. His ability to laugh and chuckle at himself, family, friends, the world, and most importantly for purposes of this essay, the law, remains a constant reminder of what is really important for the living. His memory is a blessing. Finally, thanks to Henry Rittenberg, Dana DeVlieger, and the Northwestern JTIP team for their editing. Their suggestions were thoughtful and helpful.

This delightful object forces us to ponder some intriguing puzzles. Its invisible randomness begs us to play with the artistic relevance of quantum mechanics and the famous Schrödinger's Cat physics conundrum, to take some jibes at Banksy's now infamous 2018 shredding of half his Girl With Balloon composition immediately after Sotheby's auction hammer fell marking its sale for well over a million dollars, to think about the endpoint status of a pictorial, graphic, or sculptural work containing unknown artistic contents and a mechanical device that becomes inoperable after a single use, to grapple with what really makes art valuable, and to force some rethinking about the contours of intellectual property law in the United States. This essay takes up these challenges.

INTRODUCTION: THE BOX CONUNDRUM

An object has been assembled by artists I know that presents a fascinating set of conundrums about the relationships between quantum physics, shredders, random surprises, the value of art, and copyright law. Seems fantastical, right? And so it is. The object of concern is a metal box approximately four feet tall, eighteen inches deep, and three feet wide. The box is welded together along all twelve of its edges and has an opening across one side. There is a small control panel on top. It looks like this:[1]



[1] Victor Merriam & Phyllis Merriam, *thepostdigitalprintmaker* (photograph), thepostdigitalprintmaker.com [https://perma.cc/NB43-PL5G].

Before the box was welded shut, a complex set of objects was placed inside, including a shredder with a "switch" triggered from the control panel that allows it to operate once. That single use occurs after the insertion of an artwork through the slit on the side of the box. It can handle a piece as large as 22" x 30". Once the artwork is inserted the shredder may be turned on. For any observer watching the box, however, it is impossible to tell whether the art actually runs through the shredder. In all cases, the shredder will make appropriate shredding sounds to prevent observers from figuring out what occurs. When the shredder stops, the box will contain an inert shredder and either a shredded piece of art or an intact artwork. The only way to discover what occurs is to open the box up with a welding torch. The heat would destroy or irreparably mutilate the box, its contents, and any expressive copyrightable work they represent.[2]

This delightful object forces us to ponder some intriguing puzzles. The invisible randomness of its operation begs us to play with the artistic relevance of the equally mysterious qualities of quantum mechanics and the famous *Schrödinger's Cat* physics conundrum—a tale of famous scientists arguing with each other about whether randomness in the world really occurs. Analogously, can copyright law cope with works that operate in a random fashion? That is the issue taken up in the next segment of this essay. The creators of the box with a slit also take jibes at Banksy's now infamous 2018 shredding of half his *Girl With Balloon* composition immediately after Sotheby's auction hammer fell marking its sale for well over a million dollars. Section II delves into both the humor and significance of shredding—both random and calculated—in the art world. That is followed by musings on the puzzling issues surrounding what makes art valuable and on the copyrightability of a pictorial, graphic, or sculptural work containing unknown artistic contents, as well as a mechanical device that becomes inoperable after a single use. The essay closes with reflections on the role of mystery in the copyright law of the United States.

[2] Please discount the possibility that an x-ray or some other "see through" machine could "see" inside. According to the artists such a "see through" device would have to operate at such an intense level that the box would become radioactive.

I. AN "ARTISTIC" DEBATE ABOUT QUANTUM THEORY

Quantum physics has presented the scientific and intellectual worlds with some of the greatest riddles known to humanity.[3] Those riddles provide a baseline for this essay on the relationships between copyright, "invisible" probabilities, random events, artistic value, and unascertainable outcomes. One of the most sublime mysteries of the quantum realm is "superposition"—the belief that items in the atomic world have multiple properties that cannot be simultaneously measured or "captured." Perhaps the best-known example is that tiny bits in the quantum world—protons, electrons, neutrons, and photons for example—exist simultaneously as particles and waves. Efforts to "cabin," or measure, characteristics of the wave and the particle aspects of such bits simultaneously are currently impossible. To date, the best scientists can do is describe the probabilities of one aspect emerging when instruments seek to measure the other. Once efforts are made by a non-quantum technique to seek information or once a quantum bit has some interaction with the "classical" world described by Sir Isaac Newton's laws of physics, the simultaneous wave and particle existence of the quantum bit collapses into one or the other. Robert P. Crease and Alfred Scharff Goldhaber describe the phenomenon of what we now call the Heisenberg Uncertainty Principle this way:

> Once quantum mechanics appeared, how to connect it with the familiar world that appears to behave Newtonian was one of the great intellectual issues of the early twentieth century. The general strategy worked out by [Niels] Bohr, [Werner Karl] Heisenberg, [Max] Born, and others, later frequently called the Copenhagen Interpretation, divides the world into two very different domains: one quantum, the other classical. The quantum domain is governed by a field or wave—which is not itself tangible or observable—described by Schrodinger's equation, a recipe that tells the probabilities of certain real states materializing. When this quantum wave encounters something in the classical domain, through a measurement or other interaction, the encounter evaporates or "collapses" the function, eliminating all but the one real state. According to the Copenhagen Interpretation, all we can ultimately know of the world prior to acts of observation or measurement is a set of probabilities.[4]

Once measurement is attempted, for example, with the double slit experiments described below, the quantum bit will act like a particle half the time and a wave the other half.

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[3] For a recent description of the history and contours of quantum mechanics for lay people, *see* Tom Siegfried, *Uncertainty Reigns*, 201 SCI. NEWS 16, 17 (2022).

[4] ROBERT P. CREASE & ALFRED SCHARFF GOLDHABER, THE QUANTUM MOMENT: HOW PLANCK, BOHR, EINSTEIN, AND HEISENBERG TAUGHT US TO LOVE UNCERTAINTY 190 (2014). The Copenhagen Interpretation arose from a paper published in 1935. *See* infra note 6.

Even though Albert Einstein was quite instrumental in establishing the underlying equations that gave rise to quantum theory,[5] he consistently sought to disprove the Uncertainty Principle that is so central to quantum theory. He agreed that the results of then extant quantum research were accurate. But until his death in 1955, Einstein thought that further investigation would reveal a theory of quantum reality more in tune with the non-random standards of Newtonian physics. He believed a set of non-probabilistic equations would be found that precisely describe the links between the small and large worlds. In a 1931 interview, Einstein said,

> I believe that the Schroedinger-Heisenberg theory is a great advance and am convinced that this formulation of the relationships of quanta is nearer the truth than any previous attempts. I feel, however, that the essentially statistical character of this theory will eventually disappear because it leads to unnatural descriptions, since it does not describe nature but merely expectations from nature, while the aim of science is describing the things themselves, not merely the probability of their happening.[6]

Though the debate has continued to the present day, Einstein's hope for a more traditional physics with quantifiable relationships among the characteristics of both the quantum and macro worlds have consistently been frustrated. Nonetheless, advances in the science of quantum or micro physics have continued to generate debates about how to reconcile the macro world of our daily lives with the random qualities of the quantum world.[7]

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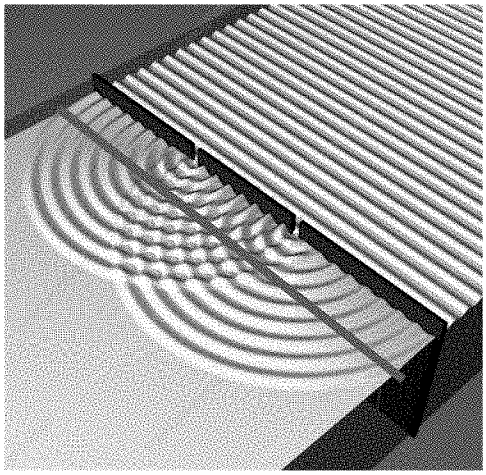
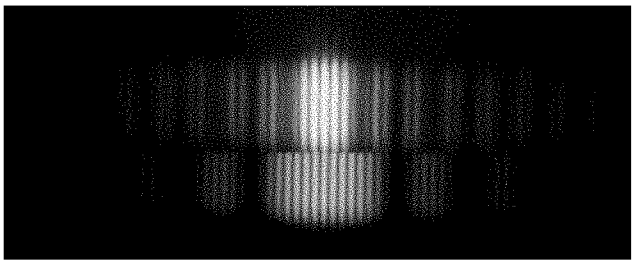
[5] WALTER ISAACSON, EINSTEIN: HIS LIFE AND UNIVERSE, 94—101 (2007). *See also* A. DOUGLAS STONE, EINSTEIN AND THE QUANTUM: THE QUEST OF THE VALIANT SWABIAN (2013).

[6] *Einstein Affirms Belief in Causality*, THE N.Y. TIMES (Mar. 17, 1931). The controversy between Einstein and other scientists of his day was embodied in one of the most famous scientific papers ever published—commonly called the EPR Paper and published in 1935. Entitled *Can Quantum-Mechanical Description of Physical Reality be Considered Complete?*, it was authored by Einstein, Boris Podolsky, and Nathan Rosen, and concluded "that the quantum-mechanical description of physical reality given by wave functions is not complete." As quoted by CREASE & GOLDHABER, *supra* note 4, at 201.

[7] *See, e.g.*, Sean Carroll, *Even Physicists Don't Understand Quantum Mechanics*, THE N.Y. TIMES (Sept. 7, 2019), https://www.nytimes.com/2019/09/07/opinion/sunday/quantum-physics.html [https://perma.cc/BS5H-BPMF].



The contours of the quantum world are vividly demonstrated by the well-known "double-slit" experiments. [8] Various versions of it confirm that a subatomic bit like an electron has characteristics of both a particle and a wave. If you measure one of those characteristics, like its wave quality, you lose the ability to precisely measure the particle quality; it becomes merely a probabilistic feature. Consider a screen or barrier with two very narrow slits in it. When you send a stream of electrons though it, an interference wave pattern will appear on a detector placed behind the screen. That pattern is much like what you get when you send waves through a little two slit barrier in a tray filled with water. As small water waves are pushed through each slit, they are diffracted into circular patterns. Then, as the two sets of circles meet each other, they get higher where both are at their peaks and lower where their troughs meet. It looks like the *interference pattern* pictured above.[9] If you do the same thing in a water filled ripple tank with only one slit you get a simpler circular *diffraction pattern* visible in the wave pattern as they emerge from a single opening without considering their interaction with the other waves.



It turns out that you get the same sorts of patterns when you use streams of atomic bits rather than streams of water. These two wave patterns are visible in the image above.[10] As electrons hit the detector

[8] A video makes the experiment easily accessible. *See Double Slit Experiment explained! By Jim Al-Khalili*, YOUTUBE (Feb. 1, 2013), https://www.youtube.com/watch?v=A9tKncAdlHQ [https://perma.cc/X8LL-PNJY].

[9] Russel Knightly, *Double-slit experiment, illustration*, in SCIENCEPHOTOLIBRARY, https://www.sciencephoto.com/media/1158720/view [https://perma.cc/AGJ2-EEMB].

[10] Tia Ghose, *Classic Physics 'Thought' Experiment Finally Recreated*, LIVE SCI. (Mar. 14, 2013), https://www.livescience.com/27881-feynman-double-slit-experiment-performed.html [https://perma.cc/H4MW-9JGV].

after streaming through two slits, they create the top pattern with its more highly amplified and unamplified portions at various points. At the bottom is the diffraction pattern in a single slit experiment with its major amplification in the center. It is like the "particles" of water going through a single slit. These two patterns would also emerge in the water ripple tank experiment if you plotted the water's heights and depths at a line drawn through the ripple tank (the red line above) after it passes through two slits or a single slit. The experiments demonstrate that electrons have both wave and particle attributes.

Now comes the amazing part—the aspect of quantum physics manifesting what has famously become known as the Heisenberg Uncertainty Principle. The aspect of the two slit experiments demonstrating the wave feature is relatively easy to comprehend when a large stream of electrons is sent through a two-slit screen. The electrons act as a group, like the macro "particles" in water waves. But what if the electrons are sent through the two slits one bit at a time? Will the wave interference pattern still emerge? You would think that the electrons would simply create two separate diffraction patterns as each one passes through one slit or the other. But remarkably, an interference pattern still emerges when you send single electrons through the two-slit screen and record where each electron hits the detector. At first, the pattern of flashes emanating from the detector seems random. But as more and more single electrons pass through the two-slit screen, an interference pattern gradually appears. Even though the electrons passed through the two slit screen one at a time, it is as if each one went through both slits at the same time and interfered with themselves! The electron's wave feature still dominates.

Even more remarkably, if you place a device *between* the two slit screen and the detector to determine which slit each electron went through before it hit the detector, you get two unique diffraction patterns as if each electron went through only one of the slits. The detector will *not* show an interference pattern.[11] It will show a diffraction patten as if the electrons were particles, demonstrating that there is a 50-50 probability that each electron went through one slit or the other. When one determines the characteristic of the electron as a particle—which slit was used—the wave function cannot be measured. The probabilistic particle/wave feature of the quantum bit "collapses" into the Newtonian world.[12] When you measure the wave pattern,

[11] Watch a video demonstrating the various experiments and their outcomes. *See supra* note 8.

[12] This phenomenon even holds for two particles that are "entangled"—linked together as if they are the same particle even though they are extremely far apart. If one feature of an entangled bit is measured here the distant entangled bit's probabilistic features will also "collapse" into the Newtonian world at the same moment. This quantum feature is now being studied by many physicists and computer scientists as

you cannot determine which slit or slits the electron as a particle used to reach the detector. The best you can do is determine probabilities. The quantum world of electrons behaves quite differently—with uncertainly if you will—from the macro world of water waves and no way presently is known to square the differences. The same goes for the rest of the atomic bits in the quantum world. Protons, neutrons, photons, and other bits display the same dual wave/particle attributes as electrons. The quantum world is filled with dualities—with bits manifesting multiple characteristics that are not simultaneously measurable in precise ways. As David Lindley has written, that was a major problem for Einstein:

> Here is the root problem that plagued Einstein for the rest of his life [after quantum physics emerged]. He believed in the reality of light quanta sooner than anyone else, but he rebelled more strenuously than anyone else against the implication that light quanta inevitably bring spontaneity and probability into physics.[13]

For decades Einstein and his physics colleague Erwin Schrödinger attempted to craft thought experiments that would disprove the centrality of probability in the quantum world. Perhaps the most famous became known as *Schrödinger's Cat*—a physics riddle suggesting that a cat may be simultaneously dead and alive. Thinking of a cat as a randomized quantum bit seemed so ridiculous to Einstein and Schrödinger that they viewed their thought experiment as an obvious refutation of the inevitability of a probabilistic physics. Their theoretical transfer of randomness from the small to the large world by describing a clearly impossible outcome confirmed for them that the separability of the quantum and macro worlds would eventually be resolved. Here is Schrödinger's statement of the problem:

> One can even set up quite ridiculous cases. A cat is penned up in a steel chamber, along with the following diabolical device (which must be secured against direct interference by the cat): in a Geiger counter there is a tiny bit of radioactive substance, *so* small, that *perhaps* in the course of one hour one of the atoms decays, but also, with equal probability, perhaps none; if it happens,

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an aspect of developing quantum storage devices and computers. The 2022 Nobel Prize in physics was awarded to three scientists who studied entanglement. Isabella Kwai, Cora Engelbrecht & Dennis Overbye, *Nobel Prize in Physics Is Awarded to 3 Scientists for Work in Quantum Technology*, THE N.Y. TIMES (Oct. 4, 2022), https://www.nytimes.com/2022/10/04/science/nobel-prize-physics-winner.html [https://perma.cc/L3J2-QZCS]. It also is being studied as a way of unifying the quantum and Newtonian worlds in a theory describing the universe as an entangled hologram. The idea is astounding but perhaps sound. *See* Dennis Overbye, *Black Holes May Hide a Mind-Bending Secret About Our Universe*, THE N.Y. TIMES (Oct. 10, 2022), https://www.nytimes.com/2022/10/10/science/black-holes-cosmology-hologram.html [https://perma.cc/6DUG-ZRFN].

[13] DAVID LINDLEY, UNCERTAINTY: EINSTEIN, HEISENBERG, BOHR, AND THE STRUGGLE FOR THE SOUL OF SCIENCE 67 (2008). The bracketed phrase was inserted by me.

> the counter tube discharges and through a relay releases a hammer which shatters a small flask of hydrocyanic acid. If one has left this entire system to itself for an hour, one would say that the cat still lives *if* meanwhile no atom has decayed. The first atomic decay would have poisoned it. The [psi]-function [the equation of probabilities] of the entire system would express this by having in it the living and the dead cat (pardon the expression) mixed or smeared out in equal parts.
>
> It is typical of these cases that an indeterminacy originally restricted to the atomic domain becomes transformed into macroscopic indeterminacy, which can then be *resolved* by direct observation. That prevents us from so naïvely accepting as valid a "blurred model" for representing reality. In itself it would not embody anything unclear or contradictory. There is a difference between a shaky or out-of-focus photograph and a snapshot of clouds and fog banks.[14]

On at least at one level, the cat tale makes no sense to physicists knowledgeable about the presently known science of the quantum world. A cat is made up of too many atomic bits to actually count, each with its own quantum states. To claim that *all* of the atomic bits will simultaneously be in the same superposition set of quantum states is impossible, writes David Lindley:

> The upshot is that according to modern thinking, Schrödinger's talk of the quantum state of a cat was too glib. If it were possible to maintain all the atoms of an entire cat in a single, fixed quantum state, then it would be possible to speak of half-dead, half-alive quantum cats. But in reality, the endless and unfathomably complex interaction of the cat's atoms is enough to ensure that no such quantum state can exist, except for an uncapturable fleeting instant. Rather, what we observe of a cat can be only those properties that remain fixed while the internal quantum state jounces around this and that. And those fixed properties, so the argument goes, are precisely what we think of as "classical" cat attributes—its being dead or alive, for instance.[15]

Despite the rejection by modern physicists of the cat conundrum implication preferred by Einstein and Schrödinger, the "quantum cat" has become both a standard cultural trope for the uncertainties of modern life, as well as a symbol for the ongoing physics quandary about how to mesh the quantum and macro worlds. As the box with a shredder slit attests, this entire arena provides enormous room for artistic amusement and, as the rest of this essay suggests, intriguing challenges to extant copyright law.

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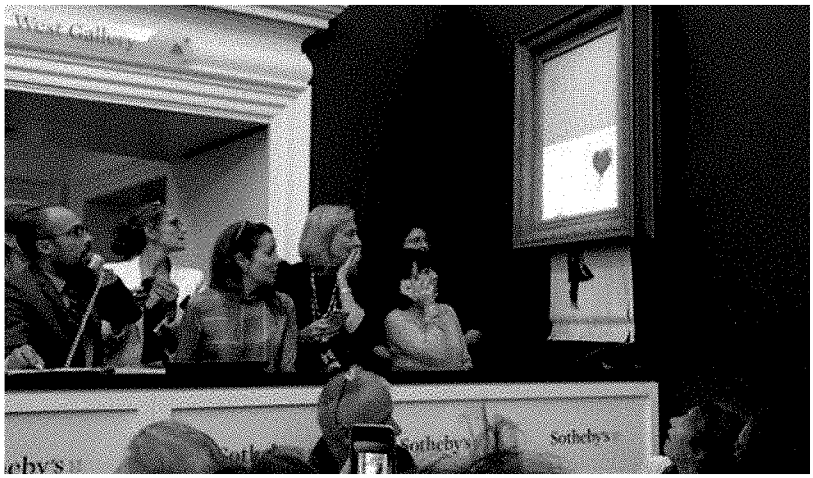
[14] *John D. Trimmer, The Present Situation in Quantum Mechanics: A Translation of Schrödinger's "Cat Paradox" Paper,* 124 PROC. AM. PHIL. SOC'Y 328 (Oct. 10, 1980). *[Emphasis in original.]*

[15] LINDLEY, *supra* note 13, at 198–99.

II. AN "ARTISTIC" DEBATE ABOUT SHREDDERS AND HAVING FUN

The slit box with a shredder, like Schrödinger's cat, creates a probabilistic frame of reference. Is the art inserted in the box slit "dead" by shredding or "alive" as a consequence of randomized good fortune? Or is it simultaneously "both dead and alive" if we don't know its state? If someone purchases the box after a valuable artwork has been run through the device what have they obtained—a box with a shredded artwork or a box with an intact artwork or a box with an artwork simultaneously shredded and intact? Is the box's value in the shredded/not shredded art itself or in the risk of not knowing its fate or in the sheer joy of befuddlement at the fate of the art that was inserted into the mystical box?



The mystical box with a slit and a shredder most certainly brings Banksy's (in)famous 2018 caper to mind. Immediately after the hammer fell at Sotheby's in London confirming the $1.4 million sale of Banksy's *Girl With Balloon*, a shredder concealed in the frame was activated.[16] It cut half of the work into strips that were left dangling from the bottom of the frame as the audience collectively gasped.[17] The winning bidder accepted the half-shredded work at the hammer price. Later, the piece was renamed *Love is in*

[16] There is a video clip of the remote-control device being triggered by someone in the audience. *Banksy: Love in the Bin's Internal Shredder Deactivated*, BBC (Feb. 4, 2019), https://www.bbc.com/news/entertainment-arts-47123606 [https://perma.cc/SP26-5T6Z].

[17] Scott Reyburn, *Banksy Painting Self-Destructs After Fetching $1.4 Million at Sotheby's*, THE N.Y. TIMES (Oct. 6, 2018), https://www.nytimes.com/2018/10/06/arts/design/uk-banksy-painting-sothebys.html [https://perma.cc/W7A4-MN45]; Scott Reyburn, *How Banksy's Prank Might Boost His Prices: 'It's a Part of Art History,'* THE N.Y. TIMES (Oct. 7, 2018), https://www.nytimes.com/2018/10/07/arts/design/banksy-artwork-painting.html [https://perma.cc/PL6T-UVLE]. The image in the text is from this article.

the Bin and reauthenticated by Banksy's Pest Control website.[18] The shredder was completely deactivated.[19] The half-shredded work was reauctioned in 2021 at Sotheby's fetching the stunning sum of $25.4 million.[20] There are no words.

The original Banksy prank did not intentionally involve any random events, though it may have seemed that way to the audience watching at Sotheby's. After the event, Banksy claimed that the shredder malfunctioned when it was triggered and that it had worked by shredding an entire work every time during "practice" sessions.[21] The destruction was part of Banksy's original artistic conception, as is made clear by the fact that he built the shredder into the frame of *Girl With Balloon*. If the piece ever went up for auction, he planned to have someone in the audience activate the shredder and cut apart the work (or perhaps only half of it).[22]

The presence of a shredder in both the Banksy and in the box with a slit does raise intriguing questions about the relationships between the copyrightability of artistic works and the sometimes useful devices that are an integral part of the creative intentions of the artists integrating them into their designs.[23] Can a device that has no practical, but only spiritual or

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[18] Scott Reyburn, *Winning Bidder for Shredded Banksy Painting Says She'll Keep It*, THE N.Y. TIMES (Oct. 11, 2018), https://www.nytimes.com/2018/10/11/arts/design/winning-bidder-for-shredded-banksy-painting-says-shell-keep-it.html [https://perma.cc/636U-RSB5].

[19] BBC, *supra* note 16; Guy Martin, *Clues And Legal Liabilities: What Happened After Banksy Shredded His Own $1.4 Million Artwork*, FORBES (Dec. 31, 2018), https://www.forbes.com/sites/guymartin/2018/12/31/clues-and-legal-liabilities-what-happened-after-banksy-shredded-his-own-1-4-million-artwork/ [https://perma.cc/X3QA-SRDG].

[20] Scott Reyburn, *Banksy's Shredding Artwork Is Auctioned for $25.4 Million at Sotheby's*, THE N.Y. TIMES (Oct. 14, 2021), https://www.nytimes.com/2021/10/14/arts/design/banksy-art-sothebys-auction.html[https://perma.cc/N4VZ-FDJV]. Prior to the auction the predictions were that a much higher price would be paid. James Tarmy, *Banksy's Secret to Increasing a Painting's Value? Destroy It*, BLOOMBERG (Sept. 3, 2021), https://www.bloomberg.com/news/articles/2021-09-03/shredded-banksy-painting-is-back-at-auction-with-a-much-higher-price[https://perma.cc/388V-2W4Q]; Eileen Kinsella, *Banksy's Infamous Shredded Painting Is Out of the Bin and Back at Auction—for Nearly Four Times Its Previous Price*, ARTNET (Sept. 3, 2021), https://news.artnet.com/market/banksy-shredded-painting-sothebys-200500 [https://perma.cc/CE2X-7FYM].

[21] Alex Marshall, *Banksy Says His Shredding Prank Misfired: 'In Rehearsals It Worked Every Times*, THE N.Y. TIMES (Oct. 18, 2018), https://www.nytimes.com/2018/10/06/arts/design/uk-banksy-painting-sothebys.html [https://perma.cc/9VTU-L9ST]. That claim, of course, well may not be trustworthy. Banksy is well known as a prankster. Regardless, the claim is perversely ironic. Be that as it may, the shredding was humanly initiated.

[22] *See supra* note 18.

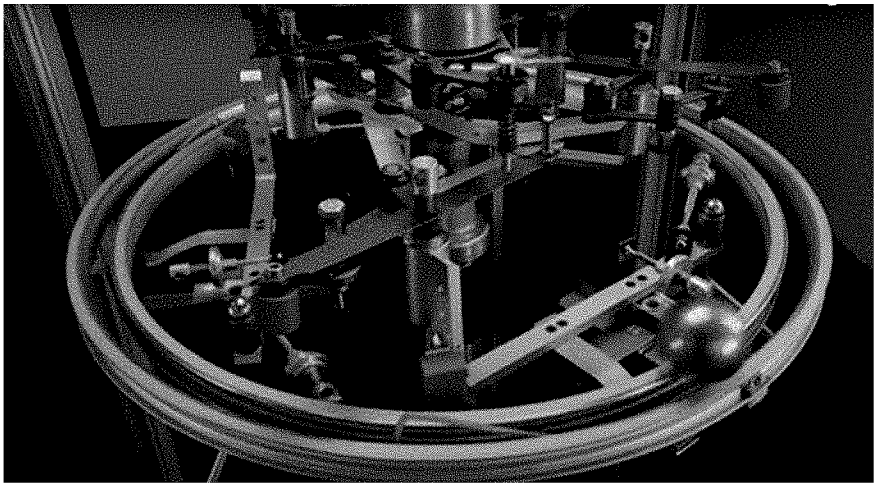
[23] 17 U.S.C. § 101 defines a useful article:

> A "useful article" is an article having an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information. An article that is normally a part of a useful article is considered a "useful article".

(The same section of the code provides that for a pictorial, graphic, or sculptural item to be copyrightable, it must "include works of artistic craftsmanship insofar as their form but not their

creative applications, be protected as an integral expressive aspect of a pictorial, graphic, or sculptural work? Is the shredder in Banksy's picture frame part of the copyrightable work?

One way to approach this problem is by contemplating the status of a device whose maker aspires to invent a perpetual motion machine. By all the known laws of science, such a device is impossible to construct; it can have no utilitarian function. But Reidar Finsrud, a perhaps visionary artist, mathematician, and inventor from Norway, claims to have come quite close to making one. Here is a picture of it taken from an intriguing video about the device:[24]



The claim made by Finsrud in the video, that with a bit of enhancement the object might actually be a perpetual motion machine, must be wrong. He states that scientists he has shown it to are not certain where the energy comes from that makes the ball continue to roll around the ring for long periods of time. That claim seems untenable. The device relies on gravity, springs, magnets, and pendulums to keep a ball moving, and gains its initial energy when the ball is put on the circle and given a gentle push. Those commenting online about the video say Finsrud has simply created a fancy, efficient, wind-up clock without the hour and minute hands.[25] After a time,

mechanical or utilitarian aspects are concerned." What does a shredder in a work connote under these sections?).

[24] *See Norwegian Creates a Mechanical Device that Seems to Run Forever*, YOUTUBE (Sep. 23, 2012), https://www.youtube.com/watch?v=Yqk283c5zBo [https://perma.cc/43FQ-B6KE]. (This image is taken from a video about the object. Some of the posted comments debunk the physics claims).

[25] *See* Steven Novella, *Where Does the Power Come From*, NEUROLOGICA BLOG (Oct. 17, 2016), https://theness.com/neurologicablog/index.php/where-does-the-power-come-from/ [https://perma.cc/Y38A-PHPR], for another commentary on the unscientific nature of Finsrud's claims.

the magnets will lose their force, the impulse given when the device is started will fade, the energy dissipated by the sounds and friction generated by the system as it operates will cause the ball to slow, and, at some point, to stop—just like a well-crafted pendulum clock that must periodically be rewound.

Finsrud's fantastical scientific claims, however, are not the main copyright issue. Indeed, even he admits that his device is not presently a perpetual motion machine. It is, however, clever and runs for quite a while. Does he honestly believe the scientific claims he makes about the device's potential?[26] Should we care?[27] Rather, I am interested in the potential artistic qualities of the device. In a video about it, Finsrud says this:[28]

> I like to create art. What is art? * * * When I first started to think about the perpetual motion machine, I thought about the wheel. * * * [Then he chatters about making a horizontally placed wheel go up and down as the ball goes around and the patterns made by the path of the ball.] It [the pattern] was the yin and yang system. And then it started to be so amazing. So I couldn't go to sleep. I had to stay up, awake, and make this machine. What was the beginning? What was the meaning of the yin and the yang? This was the mathematical symbol for the force, for the pre-force.

That Finsrud's general artistic inclinations are real is obvious from the many works of art and sculpture he has actually made.[29] And he talks freely about the connections between art, primeval energy, and dynamic forces in his video. But is the machine a work of art without regard to the plausibility of Finsrud's improbable claim that at some future date it might be a useful device? Is it any more or less sculptural and copyrightable than the shredders placed in the frame of *Girl With Balloon* and in the metal box with a slit described at the outset of this essay? Is the slit/box and its contents a copyrightable object? Is it anything more than an uncopyrightable device?[30] Does is it have a human author or is it merely a mechanical automaton set in motion by an electronic device? How can its value be determined? What does probability have to do with copyright law anyway?

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[26] His words are hard to believe. He claims, for example, to have made the device in only three days. To me, that seems improbable.

[27] There is an interesting analogy to this problem. Facts are not protected by copyright law. The expression of a story is, but not the facts inserted in the telling. But when an author writes a book and calls it truthful, it may be treated as true even if virtually everyone else who knows anything about the tale says it is false. *See* Hoehling v. Universal City Studios, Inc, 618 F.2d 972 (2d Cir. 1980). Does that mean we must take his scientific claims as factual too? Surely the answer is no. The author in *Hoehling* claimed his story was factual. Finsrud does not make a similar claim about the present utility of his machine.

[28] *Norwegian Creates a Mechanical Device that Seems to Run Forever*, *supra* note 24.

[29] *See* Galleri Finsrud, https://galleri-finsrud.no [https://perma.cc/THM4-HS96].

[30] 17 U.S.C. § 102(b).

Copyright law bars protection of purely utilitarian devices.[31] Many of the magnets, pendulums, rods, and other items in Finsrud's device are potentially useful when separated from his machine.[32] The same is true of the shredders placed inside the frame used in *Girl With Balloon* and the box with a slit. But once placed in each of the three settings, the devices have no practical, utilitarian purpose.[33] They simply are instruments of cleverness, motion, design, and, most importantly, expressive artistic intention. This certainly is not a new phenomenon. Over the centuries, many artists have used contrivances to enhance their aesthetic goals. Think of the machinery that turns a merry-go-round and causes a calliope to play music, the motors that enhance movement in mobiles or cause sculptures to rotate, or the variety of gadgets that cause Jean Tinguely's well known kinetic art works to move, clang, shake, rattle, and roll.[34] In each case the motion causing

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[31] 17 U.S.C. § 102(b) provides:

> In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

More importantly, the definition of a sculptural work limits the ability to copyright useful aspects of an object. 17 U.S.C. § 101 has two relevant definitions:

> "Pictorial, graphic, and sculptural works" include two-dimensional and three-dimensional works of fine, graphic, and applied art, photographs, prints and art reproductions, maps, globes, charts, diagrams, models, and technical drawings, including architectural plans. *Such works shall include works of artistic craftsmanship insofar as their form but not their mechanical or utilitarian aspects are concerned; the design of a useful article, as defined in this section, shall be considered a pictorial, graphic, or sculptural work only if, and only to the extent that, such design incorporates pictorial, graphic, or sculptural features that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article.* [Emphasis added.]

And

> A "useful article" is an article having an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information. An article that is normally a part of a useful article is considered a "useful article".

[32] And, of course, a perpetual motion machine would have many uses should one come into existence. They would be sources of inexhaustible energy.

[33] Finsrud does not actually claim that he can make a perpetual motion machine. Such a device certainly would be a useful and revolutionary system of energy production. But if does claim he has made one, even though everyone with knowledge of physics will debunk his claim, has he made a useful, and therefore uncopyrightable, device for copyright purposes? Would it be like a "history" book that an author claims is totally accurate that everyone else says is inaccurate? Such a tome has been declared to be factual and uncopyrightable. *See* Hoehling v. Universal City Studios, Inc., 618 F.2d 972 (2nd Cir. 1980).

[34] Interesting videos of Jean Tinguely's work may be found at Tingely's Museum. *See, e.g.*, *Tinguely Museum*, YOUTUBE (July 5, 2020), https://www.youtube.com/watch?v=w7zVitSAMgc, [https://perma.cc/FK7D-BHDK]; *Tinguely@Tinguely. A New Look at Jean Tinguely's Work*, YOUTUBE (Nov. 8, 2012), https://www.youtube.com/watch?v=GmrDEX4P5l8 [https://perma.cc/7PD7-F3PW]. And who can forget the classic Bill Haley and the Comets recording of Shake, Rattle and Roll. *See Shake, Rattle and Roll- Bill Haley and his Comets*, YOUTUBE, https://www.youtube.com/watch?v=8B7xr_EjbzE [https://perma.cc/FL89-54LY].

devices are an integral part of the artwork, enabling the artist to realize their artistic intentions, just the type of expression protected by copyright law. These once useful objects, therefore, are integral parts of pictorial, graphic, or sculptural works.[35]

That was true of Banksy's shredder as well, though it was hidden from public view by the large frame used to mount his work. That device was a central component of Banksy's artwork. But note well that in the case of the slit/box, the action of the shredder as well as the device are hidden from view; all that is sensed by human beings are the sounds and vibrations of its operation after an artwork slips into the box. In addition, the result of the device's activity is random and the result of its singular operation is unknowable without destroying the slit/box itself. In those ways it is quite different from the Finsrud motion machine and the Banksy frame. While its physical embodiment almost surely is a pictorial, graphic, or sculptural work even in the absence of complete knowledge of its operation, the uncertainty of its operation adds an additional, critical burst of copyrightable creative expression.

It would be inappropriate to conclude this section without noting one final, important, expressive artistic intention presented by the slit/box and its shredder. Making fun of artistic pretensions may also be extraordinarily creative and expressive. When artists, such as those making the slit/box, comment humorously on other artists like Banksy, to say nothing of famous scientists like Heisenberg and Einstein, our laughter emphasizes the importance of the creativity that went into making the work. Putting one's tongue firmly in a cheek is often a highly creative and sometimes even an attractive gesture. And, of course, it adds additional room for artistic enjoyment. Surely a parodic chuckle contributes to the expressive vitality of copyright law.[36]

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[35] Note well that this conclusion removes *all* utilitarian purposes of the items that may have uses when not part of the art object. There is, therefore, no need to undertake the separability inquiry often demanded when largely utilitarian items also contain expressive features. Compare the definition of pictorial, graphic, and sculptural works provided. *See supra* note 34.

[36] See the delightful (depending on your musical taste of course) parody case. Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569 (1994).

III. AN "ARTISTIC" DEBATE ABOUT VALUE, INVISIBILITY, AND FIXATION

A. Randomness, Expression, and Value

The end-state of the box with a slit is that no one knows what its end-state is. The artwork is either shredded or it isn't and we can't know which it is. If we could look inside the box we would inevitably be surprised. Clever, but what does that mean for purposes of copyright law? The Banksy shredder and the slit/box present somewhat different factual settings. Banksy hid the shredder and, we are told, conditioned the sale on Sotheby's not examining the work out of the frame prior to the auction.[37] In short, he wanted to keep the presence of the shredder a secret. Suspicions abound that both Sotheby's and the work's owner were in on the prank, but the sale itself went forward without the bidding public knowing the details.[38] So far in the telling of the story, the work was quite similar to the slitted box. There was a shredder that would either operate or it wouldn't, but at the behest of Banksy rather than a randomized machine.

But there are two important differences between the Banksy and the slit/box: how the shredders operate and how to analyze the works. It was physically possible to open up the Banksy and reassemble it without apparent harm; that was done later. In contrast, the slit/box cannot be opened without destroying the work. In addition, the shredders behave differently in the two objects. The consequences of Banksy's actions were obvious. The secret in the work at the time of its sale—the presence of the shredder—was revealed when the hammer fell, and the device was switched on. It was not a probabilistic event. With the slit/box, however, the presence of the shredder is not a secret, but its operation is random and the results are undetectable. That indeed is the point of the work. It's the result of its operation and it cannot be revealed without destroying the work.[39] The artists' intention to

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[37] Kenny Schachter, *Here's What Really Happened With Banksy's Art-Shredding Stunt at Sotheby's, According to Kenny Schachter's Source*, ARTNET (Oct. 17, 2018), https://news.artnet.com/opinion/kenny-schachter-on-banksy-at-sothebys-stunt-1372921 [https://perma.cc/PR8X-LWD2].

[38] *Id.* After all, the slit in the bottom of the frame out of which slid the shredded portion of *Girl With Balloon*, was not in hiding. There also was a little hole in the frame to receive a signal from the remote control that started the shredding. In addition, Sotheby's was required to auction the work last and hang it in an unusual location all by itself. All of this makes it seem highly unlikely that Banksy and the owner selling the work acted independently.

[39] And if the box is destroyed a good case may be made that the moral rights of the artists to protect their slit/box from mutilation or destruction would be violated. *See* 17 U.S.C. § 106A.

leave the result as an irresolvable mystery is intrinsic to its expressive creativity.[40]

The artists creating the slit/box intentionally created this mystery. If and when an artwork is run through the box and the resulting status of the box and its contents (shredded or not) is auctioned or sold off, the purchaser buys a mystery. Is the work inside intact or shredded? Whatever price the box draws is presumably its "worth," whatever that means. What, in fact, is the work for market purposes, let alone the nature of its creativity? What does the buyer obtain? These inquiries are, of course, the point. The larger values being questioned are about the meaning of art, the ways the value of art is socially constructed, the contemporary diminution of creativity as a value in favor of fame and marketability, and the loss of cultural willingness in each of us to look deeply at art works themselves rather than at what we are told to perceive. All of that is bound up in the box with a slit. "What's it worth?" is both a completely perverse question and a description of the rebellious purposes of the work. Penny for your thoughts.

[40] A similar claim may be made about Banksy's work. Would deactivating the shredder later raise moral rights claims? In the actual setting, a German museum displaying the half-shredded work deactivated the device to avoid accidentally retriggering it. *See* BBC, *supra* note 19.

B. Can I Really Write About Slit/Box Copyright Law? Is it Fixed? Where Can I Find It?

The artistic conundrums are accumulating. After the shredder operates, is the slit/box fixed in a tangible medium of expression that is "sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration" as the law requires?[41] The ultimate creative end point of the slit/box is impossible to fully perceive, reproduce, or communicate at all. Does a tree falling unwitnessed in a forest make sounds? Surely(?) it does, but does it "count" if it's not recorded or recordable? Can a work with an unknowable but important and stable characteristic be perceived, reproduced, or communicated? Is the burst of creativity embedded in an outcome's invisibility fixed in a tangible medium of expression?

While it may seem counter-intuitive, a device producing random and hidden action integral to artistic intention is fixed. Fixation requires that a work be perceptively "*communicated* for a period of more than transitory duration."[42] Once the shredder in the slit/box runs, we know and comprehend that the box contains a randomized event that has become stable for an indefinitely long period. That expression of uncertainty is as fixed as any other painting or sculpture. It communicates to us a mysterious and fixed artistic intention just as secure and permanent as the random motion of a Calder mobile or the placement by a painter of a single, mysteriously shaped, curved line on a solid white canvas.

We do not normally think of the expression in pictorial, graphic, or sculptural work as conveying a physical secret, as a vessel filled with an inaccessible surprise, as a repository radiating whimsy, as a probabilistic joke on quantum physics, or as something that is invisible. While the art world is constantly confounded by surprise, it is rare that the surprises are both random and hidden. To work through the issues more completely, compare two recent, improbable art world kerfuffles about other forms of invisibility—one about an artist "making" a blank canvas and the other about a sculptor "making" no "sculpture."

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[41] *See* the definition of fixation in 17 U.S.C § 101.

[42] *Id.* Emphasis added.

Credit . . . Henning Bagger/Agence France-Presse, via Ritzau Scanpix/Afp Via Getty Images

The blank canvas portraying an invisible "painting" pictured above, was appropriately and cleverly entitled *Take the Money and Run*! [43] According to the New York Times, it appeared on the wall of a Danish museum in this way:

> A Danish museum gave about $83,000 to an artist to reproduce a pair of works displaying the cash, reflecting the nature of work in the modern world.
>
> Instead, the artist, Jens Haaning, delivered two blank canvases without a scrap of currency in sight, which are featured in the exhibition that opened last week at the Kunsten Museum of Modern Art. Mr. Haaning concedes that he did almost no actual work on the project after receiving a commission from the museum, in the northern city of Aalborg, but says he is keeping the cash — in the name of art, of course.[44]

The second kerfuffle involves an invisible sculpture, by the conceptual artist Salvatore Garau, that was recently sold for $18,300. [45] Artnet described the event in Garau's creative, quantum terms this way:

> For Garau, the artwork, titled *Lo Sono* (which translates to "I am"), finds form in its own nothingness. "The vacuum is nothing more than a space full of

[43] Cora Engelbrecht & Jasmina Nielsen, *In the Name of Art, an Artist Pockets $83,000 and Creates Nothing*, THE N.Y. TIMES (Oct. 1, 2021), https://www.nytimes.com/2021/10/01/world/europe/danish-museum-artist-jenns-haaning.html [https://perma.cc/NPT4-YL28].

[44] *Id.*

[45] Taylor Dafoe, *An Italian Artist Auctioned Off an 'Invisible Sculpture' for $18,300. It's Made Literally of Nothing*, ARTNET (June 3, 2021), https://news.artnet.com/art-world/italian-artist-auctioned-off-invisible-sculpture-18300-literally-made-nothing-1976181 [https://perma.cc/45ZC-7UGX].

> energy, and even if we empty it and there is nothing left, according to the Heisenberg uncertainty principle, that nothing has a weight," he told the Spanish news outlet Diario AS. "Therefore, it has energy that is condensed and transformed into particles, that is, into us."
>
> * * * *
>
> The lucky buyer went home with a certificate of authenticity and a set of instructions: the work, per Garau, must be exhibited in a private house in a roughly five-by-five-foot space free of obstruction.
>
> "When I decide to 'exhibit' an immaterial sculpture in a given space, that space will concentrate a certain amount and density of thoughts at a precise point, creating a sculpture that, from my title, will only take the most varied forms," the artist went on.
>
> If you thought that was artsy claptrap, he goes on to draw a rather lofty comparison to the work: "After all, don't we shape a God we've never seen?," he added.[46]
>
> * * * *

Lo Sono isn't the only artwork of its kind in Garau's oeuvre. In February 2022, at the Piazza Della Scala in Milan, the artist exhibited *Buddha in Contemplation*, a similarly invisible sculpture demarcated by a square of tape on the cobble-stoned plaza. [47]

Here is an image(?) of *Buddha in Contemplation:*[48]

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[46] *Id.* In saying this and in naming the work *I Am* might Garau have been thinking of Exodus 3:13–14 where part of the conversation between God and Moses at the burning bush is described? God has told Moses to go to Pharoah seeking the release of the Israelites from bondage.

> Moses said to God, "When I come to the Israelites and say to them, 'The God of your fathers has sent me to you,' and they ask me, 'What is his name?' what shall I say to them?" And God said to Moses "Ehyeh-Asher-Ehyeh." He [God] continued, "Thus shall you say to the Israelites, "Ehyeh sent me to you.'"

This translation of a quite cryptic pair of verses may be found in THE RABBINICAL ASSEMBLY OF THE UNITED SYNAGOGUE OF CONSERVATIVE JUDAISM, ETZ CHAIM 329–330 (2001). The authors of this volume chose to simply provide the transliteration of the Hebrew letters in the text because the words have no obvious translation. It often is written in English as "I will be what I will be." It connotes that whatever divine entity operates in the Bible is unknowable and indefinable. It is, in Garau's telling, a concept that we shape. And so, *I Am*. [Ed.]

[47] Taylor Dafoe, *supra* note 45.

[48] *Id.* The image is a screen shot taken from a video in the Dafoe article.

With both the blank canvas and the unseeable sculptures, the works are demarcated in a space—by the frame around the canvas, by the canvas itself, by the walls, floor, and ceiling of a room, or by markings on a surface. We "know" what or where the works are. While we can't "see" them with our eyes, we perceive a mental stimulus of their presence. It is like our inability to "see" inside the slit/box while still understanding the presence of a mystery. Our imaginations must take over. If these works are copyrightable art, they certainly are much more conceptual than tangible. Of the three works—slit/box, blank canvas, and invisible sculpture—the invisible sculpture is the most challenging for copyright purposes. But even the almost complete invisibility of its "installation" does not present insurmountable challenges to obtaining copyright protection. The others have some physical embodiment—some visually perceptible aspect clearly fixed in a tangible medium of expression in a traditional fashion—a canvas in one and a visible metal box in the other. Even the invisible sculpture is defined by something tangible and fixed—the rectangular markings on the surface of the plaza. The purchaser of the *Lo Sono* sculpture also, we are told, "went home with a certificate of authenticity and a set of instructions: the work, per Garau, must be exhibited in a private house in a roughly five-by-five-foot space free of obstruction."[49]

This is certainly not the first such tangible "embodiment" of non-physical art; nor will it be the last. Certificates of authenticity and

[49] *Id.*

instructions for display of works have been used by artists for quite some time.[50] A description of "reality" is used as a creative guide for both the making of a physical work (which may vary in appearance from "display" to "display" or "non-display" to "non-display") and for signs of the ways human beings may perceive it. They are creatures of our imagination as much or more as they are physical embodiments of an artistic endeavor. Should it really make any difference if a creative foray involves an instruction set on how to make, for example, a six-inch-wide black horizontal stripe on a wall or how to install a box made of tape on a cobble stone plaza evoking a contemplative Buddha? Both are fixed for copyright purposes.

Here's one more puzzle about Garau's work. News reports have suggested that he has been sued by Tom Miller, a Gainesville, Florida performance artist. Taylor Defoe reports that Miller:

> installed his own invisible sculpture in Gainesville's Bo Diddley Community Plaza, an outdoor event space. He titled it *Nothing* and erected it over the course of five days with a team of workers who moved blocks of air like mimes building the Great Pyramid of Giza. Tens of people were on hand to see the opus unveiled that June.
>
> Miller even made a short film about the work, a mockumentary that features fake artists and curators as talking heads. He compares his respective take on nothingness to John Cage's "4′33″ and *Seinfeld*.
>
> * * * *
>
> It's worth pointing out, of course, that immaterial art has a long history stretching back to the 20th century. Yves Klein exhibited an empty gallery space in 1958 and envisioned an "architecture of air" a couple of years later. Tom Friedman installed an invisible object atop a plinth in 1992—and it sold for £22,325 nine years later.[51]

Garau's work, if it stood alone, would be copyrightable. But he is hardly the only maker of invisible art. In addition to Klein, invisible works have been crafted by Robert Barry, Graciela Carnevale, Robert Irwin, Chris Burden, Stanley Brouwn, Michael Asher, Maria Eichhorn, David Hammons, Ilya and Emilia Kabakov, Roman Ondak, Andy Warhol, Tom Friedman, Maurizio Cattelan, Matt Sheridan Smith, and Maurizio Bolognini.[52] Many of

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[50] I have previously written at some length about such artistic endeavors. *See* Richard Chused, *"Temporary" Conceptual Art: Property and Copyright, Hopes and Prayers*, 45 RUTGERS COMPUT. & TECH. L.J. 1 (2019).

[51] Taylor Defoe, *A Florida Man Is Threatening to Sue an Artist Whose Invisible Sculpture Sold for $18,000, Saying He Came Up With the Idea First*, ARTNET (June 30, 2021), https://news.artnet.com/art-world/florida-man-lawsuit-invisible-sculpture-1984780 [https://perma.cc/9GSL-GK9S].

[52] Mike Brennan, *The Eloquence of Absence: Omission, Extraction And Invisibility in Contemporary Art: The Empty Gallery*, MODERNEDITION, http://www.modernedition.com/art-articles/absence-in-

these works were made well before either Garau or Miller got into the act. Of course, some works involving invisibility are outright frauds.[53] But whether arising out of creative instincts, humor, or nefarious intent, all invisible art works raise the same sort of questions as the box with a slit. What is the degree of static solidity, as well as the scope of sensual perception, required to fulfill the fixation requirement in copyright law? And that hardly touches the surface of responding to the possibilities of copyright infringement in a dispute between the likes of Miller and Garau.[54]

Those works that are partially or totally invisible arriving on the scene under the auspices of a certificate of authenticity and instruction document are surely fixed to a certain degree. Jens Haaning's blank canvas is tangible, as is the narrow wood frame that surrounds it. A certificate of authenticity arriving with instructions for a conceptual artwork is fixed in the most traditional of senses. It is recorded on pieces of paper. Creations made evident by marks on surfaces asking us to imagine a form or blank canvases provoking thoughts manifest quite similar indicia of fixation as the slit/box. And they also may be original and creative if they arrive with the imprimatur of an artist's intention to use a blank object's expression to stimulate something bewitching and thought provoking. A great example is John Cage's *4"33"*—a work in three movements each of a different length adding up to a total of four minutes and thirty-three seconds. But Cage provides no notes or sounds for musicians to make, leaving listeners to contemplate the meanings of ambient noise in a performance space,[55] Marcel Duchamp's (in?)famous *Fountain*—a urinal placed on its side on a sculpture pedestal—

art/empty-art-gallery-shows.html [https://perma.cc/JGZ7-YN25]; Mike Brennan, *The Eloquence of Absence: Omission, Extraction and Invisibility In Contemporary Art: The Invisible Art Object,* MODERNEDITION, http://www.modernedition.com/art-articles/absence-in-art/the-invisible-artwork.html [https://perma.cc/YD9C-NHQA].

[53] Jonathan Jones, *Invisible Art: The Gallery Hoax That Shows How Much We Hate the Rich*, THE GUARDIAN (Sep. 30, 2014), https://www.theguardian.com/artanddesign/jonathanjonesblog/2014/sep/30/invisible-art-hoax-lana-newstrom-cbc [https://perma.cc/9Q9C-6N2X].

[54] Just because Miller made an invisible work before Garau doesn't mean he can sue for theft of the idea of invisible art. Expression, not ideas are protected by copyright law. At a minimum, I would think, a plaintiff would have to claim that the defendant created an invisible work quite similar if not exactly like the plaintiff's prior work.

[55] Another relevant tidbit is that Cage's estate filed a copyright infringement action against, Mike Batt for including a song entitled *A Minute of Silence* on a classical rock album by The Planets. It was settled for an unspecified six figure sum that Batt claimed was in recognition of the importance of Cage's role in the history of music. See *Composer Pays for Piece of Silence*, CNN (Sept. 23, 2002), https://edition.cnn.com/2002/SHOWBIZ/Music/09/23/uk.silence/ [https://perma.cc/ELF7-4DEP]; *Musician Settles Suit On Silent Piece*, BILLBOARD (Sept. 24, 2002), https://www.billboard.com/articles/news/74099/musician-settles-suit-on-silent-piece [https://perma.cc/Z6ME-XMKJ].

also fits here nicely.[56] Cage and Duchamp ask us to contemplate their meanings using a perceptible object or ambient aura in a room as a stimulus. So, it seems, the slit/box also is sufficiently fixed to be a copyrightable work. After all the box is physical and quite visible even if the results of its one-time use are mysterious.

But does the copyright code's definition of fixation require more than the ability to perceive part of a work for a period of more than transitory duration? Does it also require the ability to perceive all the uncertainties of the work? Does the fact that we will never know whether the artwork run through the slit is shredded or not make a difference? We "know" there is either a whole or a shredded work inside the slit/box. The conundrum is that we don't know which fixation is extant and we cannot perceive it for any period of time, let alone one of more than a transitory duration. But the "presence" of a mystery is as permanent as any artwork. Indeed, all art worthy of the name is thought-provoking, evocative, and mysterious. No art ever fully manifests *all* of its potential expressiveness to every viewer. At some point, the answer to this conundrum is simply ineffable. As a good friend wrote to me in quantum-talk with insidiously clever humor after reading a draft of this essay:

> It is hard to know which is better—the slit/box or the invisible sculpture. But as tantalizing as the slit box may be, I am inclined to give the award to the invisible sculpture. To me, the invisible sculpture is quantum purity, before the wave function collapses it into a macro universe existence. But perhaps copyright law is the culprit, if its insistence on reduction into a tangible medium means that quantum purity must be sacrificed. I am sure that all of this will eventually be clarified in some higher dimension.[57]

So, does copyright law *really* behave like Einstein. Just as he claimed that there must be a way to precisely define the relationships between the macro and micro realms of the universe, does copyright law require that there *must* be a way to perceive and later recover all of what artists creatively intend and express? How can we possibly do that with art? What mysteries does da Vinci's *Mona Lisa* express? Another penny for your thoughts.

Even the most easily copyrightable works have mysterious or hidden segments. Think about a quite long, wonderful mystery novel by a fictional fiction writer with a last chapter that reads like this:

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[56] Though it is worth noting that Cage's work also has the support of sheet music with appropriate notations about the length of each movement of silence.

[57] Email from Girardeau Spann (aka Gerry Spann and Gerty Spann) to the author (Oct. 24, 2021). In the same note he suggested he would send the essay to Steve Goldberg, a mutual friend and colleague who died in 2010.

Chapter 613: Denouement

> *Perverse Concluding Note From the Author*: You now "know" that either Mysterious or Puzzler killed Mayor. To complete your reading of this novel, it is your job to write the last chapter and resolve the mystery of which of the two remaining suspects actually killed Mayor. This task, as described here, assumes that Mayor is dead. But is that assumption true? I have written my version of a final chapter, but the only extant copy will forever remain a secret. It is in a sealed metal box that I cast into a dump where it will either rot or it won't.

Clearly this long mystery novel is copyrightable. The absence of a knowable resolution to the mystery only makes its protected expression more intriguing and creative. And surely it is not possible to distinguish this novel from the box with a slit, itself a pictorial, graphic, or sculptural work with its invisible, mysterious, and expressive denouement that at some point in the far distant future will either rot or it won't. As long as it exists it will expressively be what it will be.