

## The [Dissipative] Joy of Accounting: Desiring, Imagining, and Talking about NFTs While the Planet Burns

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### ABSTRACT

Promoters of art-oriented non-fungible tokens (NFTs) and online NFT auction houses like Foundation, OpenSea, and SuperRare claim to be “revolutionizing” and “democratizing” the worlds of art and art collecting by deploying blockchain technology to track sales and purchases and thereby eliminating the threats of transactional opacity and fraud that have long plagued art markets. This article complicates such claims by arguing that with NFTs, the usual clamoring for authenticity in art becomes so abstract that only code remains, as the aesthetic object becomes effectively indistinct from the account of its provenance and transaction history. An NFT, like a financial derivative, has no necessary or representational relationship with any actual underlying object. The artwork associated with the token is, rather, prised apart from its existence as property and finds its use not in being seen or felt, but in the truth of its copyability. Looking beyond the NFTs themselves, this article interrogates the discourses promulgating this trend. Comment threads in Reddit and Discord groups, for example, do much to channel the libidinal energy elicited by an artwork, while the digital token itself generates an acquisitive enthusiasm wholly apart from the sensation of seeing or hearing the associated work. Despite fronting radical social change, NFTs ultimately reinforce traditional forms of property and ownership, exhibit reactionary aesthetic and cultural values, and anticipate increasingly authoritarian modes of social control. Taking a wider view, I consider ours an age of *post-information*, wherein, contrary to Bateson’s classic definition of information in terms of a doubled difference, we find data-based artifacts like NFTs (following cryptocurrency) to be increasingly productive of widespread social and political *indifference*, a perpetuation of sameness, and an augmentation of the narcissistic ego. In this case: data as the afterlife of art.

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*Art market liquidity and value are likely to soar if digital ledger technologies are successfully introduced, creating new side industries, such as a boom in art-based lending, and making art an integral part of the financial industry. Such financialization of the art market holds significant promise for artists if correctly governed, but also comes with risks.*

—The Alan Turing Institute, 2018 <sup>1</sup>

*The alternation of austerity, which accumulates, with prodigality, which dissipates, is the ordinary rhythm in the use of energy. Only relative austerity and the absence of dissipation allow*

*for the growth of the energy system that living beings or societies constitute. But, at least for a time, growth has its limits and it is necessary to dissipate the excess that cannot be accumulated.*  
—Georges Bataille, 1949 <sup>2</sup>

## INTRODUCTION

At 1:00PM PST on February 9, 2022, the first thing I see on the r/NFTsMarketplace subreddit is a collection posted by u/cyber-hype called Ice Bear Society, a fairly typical non-fungible token (NFT) series giveaway making two asks common to the moment: drop your Ethereum wallet address in the comments and join the Discord server. In exchange, one gets a “one-of-a-kind” Ice Bear NFT—an algorithmically rendered image of an anthropomorphized polar bear, posed in the style of a social media profile picture. One’s bear might be wearing a top hat, blowing bubble gum, or smoking a pipe in a track jacket. The variations and combinations are nearly endless, and, by virtue of the rapidly looping, GIF-style presentation format common for such collections, one seems to see all of them at once (Fig. 1).



***Figure 1. Ice Bear Society screen shots.***

As the NFT boom of 2021 extends into early 2022, r/NFTsMarketplace sees scores of such collections posted daily (Alien Animals, Generous Robots, Silverback Legends, to name just a few).<sup>3</sup> In this encounter, as in each NFT exchange, the parameters of spectatorial subjectivity—and the concatenation of desire, demand, and acquisition in the realms of art and culture—undergo radical mutation. This reworked ego-object relation—a reorientation towards the serial rather than the individual, a flickering rather than a lingering—finds its most crystalline expression in extremely popular (and increasingly valuable) “profile-pic” collectible series such as CryptoPunks (Larva Labs, 2017) and Bored Ape Yacht Club (Yuga Labs, 2021), but there are scores of imitators coursing through auction platforms and Reddit threads fresh on the hour, each deploying techniques of anthropomorphization to maximize identitarian appeal.

Both the CryptoPunks and Bored Apes collection contain 10,000 algorithmically generated examples, each one representing a “unique” composite of relatively scarce or abundant traits (e.g., hat style, facial hair, skin tone, piercings, etc.) living on the Ethereum blockchain (Fig. 2). Bored Apes, which did much to propel the 2021 NFT boom, were minted in April of that year and initially sold for \$190 each; by the following spring, they were trading for an average of \$344,000 a piece, boosted by a heady combination of wash trading and celebrity endorsement.<sup>4</sup>

CryptoPunks were initially given away freely in 2017, in that rich but fleeting spirit of openness that has long haunted the internet. Since then, they have become something like status symbols for the high-tech cognoscenti, with some “Punks” fetching several million dollars at auction. The popularity of these profile-pic series, as gauged not only by their sales but by the attendant proliferation of press coverage and commentary, suggests a culture that finds fresh value in uniqueness, having peeled it away from both the authenticity of the artist’s touch and the embodied experiential predilections of contemporary installation and public art.



***Figure 2. An assortment of CryptoPunks (Larva Labs), among the first profile-pic NFTs, released in 2017. The even uglier, even trendier Bored Apes Yacht Club NFTs, unlike the vast majority in their cohort, accord copyright to the owner of the NFT and are therefore not shown here.***

In all this clamor for the *algorithmically* unique, there is a somewhat counterintuitive diminishment of the individual. In these profile-pic series, there is far more sameness than difference. The cropping, the corporeal posture, the angle of the head, the overarching style, the discursive accompaniment are all identical across the various series. Each specimen may be “one of a kind,” *but there is never just one*. It is not the image—what crosses the field of vision—that is unique, as had been the case with the aura of the original in classical art, nor is it the subjective experience of a contemporary immersive work. The only singular thing—the very marker of non-fungibility—is the encrypted contract and its infinite rehashing on the blockchain.

When scrolling through Reddit or Instagram, or even when viewing in isolation an individual post announcing the minting of a new collection, one does not see just a still example image but a rapidly looping sequence of several examples—from as few as three or four to dozens or more, depending on the collection—flashed across the screen for just milliseconds at a time, too fast for the eye to identify a full individual; one sees only a blur of traits. In these cases, it is not the particular image but the *relative* uniqueness of its composite traits—and the formal samenesses that define the series—that one identifies with and which captures the attention of the viewing subject. The ego-artwork relationship dissolves in an algorithmic compositing of identity markers and a headlong rush into financial speculation. What one desires—and certainly what one acquires—is not an individual (and individuated) work so much as a set of probabilistic characteristics and a metonymic relationship to each example in the algorithmically generated series.<sup>5</sup>

Whereas the digital culture of the copy (call it Web 1.0) devalued uniqueness in sometimes socially and politically interesting ways (e.g., Napster, Pirate Bay, Creative Commons), NFT art does the reverse, restoring value (but pegging it to immaterial accounts) and igniting an explosion

of ownership claims—but solely when the goods themselves are intangible, unnecessary, and without use. Monetary value reemerges, but only as the art encounter is liquidated, its affective extensions pruned away, its joys diverted elsewhere. The viewer gets fewer piques and charges from individual images or works, as the libidinal economy of art NFTs instead eddies around series, mutations, customizations, and monetizable probabilities. This is to say that, in the register of the viewer-work (or ego-object) relation (that is, what I below align with the Lacanian Imaginary), the *relative uniqueness* of the image, rather than the qualities of the image itself, becomes for the market participant the ever-elusive object of desire or target of subjective investment. In other words, what the investor or collector seeks in this economy is not the uniqueness of an art object but an *algorithmic objectivization of uniqueness in the abstract*.

Building on early critical analyses of NFT art and culture, this article argues that the ebullience and irreproachability that has thus far accompanied the development of and popular discourse around blockchain art obscures a threefold reactionary project to augment the regime of private property; to tamp down the potential for embodied, libidinally charged aesthetic experience; and to deflect the observance of anthropogenic climate crisis. The rapid rise of art NFTs in 2021 exemplifies the broader dehumanizing tendencies of data capitalism, where imperceptible digital bits are increasingly conjured, crunched, contracted, and consumed by and through computer networks with little to no personal involvement or material manifestation, in a move that both desocializes information and liberates data from the orbit of human concern.

## THE CARBONIFEROUS CONTRACT

In 2021, NFTs lit up the art world, stimulating a market valued at forty-one billion dollars annually, nearly as much as the global art market itself.<sup>6</sup> Each “token” is effectively a smart contract, which authenticates and sets terms of sale for a variety of (mostly) digital artifacts, typically housed on the Ethereum blockchain. In most cases (Bored Apes Yacht Club being one of the rare exceptions), this contract—simply a twenty-two-digit alphanumeric string “on chain”—is associated with an image or some other digital object that can be viewed freely by anyone online and copied and disseminated in accordance with terms that have nothing to do with the token and its contract. The standard contract thus grants neither material ownership nor copyright. What it does is remediate the capacities of and relationships between artists and collectors and the affects and percepts that constitute a work of art. Accordingly, the NFT has been celebrated as a tool that can empower both artists and collectors alike, as it cuts out traditional intermediaries like brokers, dealers, and exhibitors in the same way Bitcoin and other cryptocurrencies purport to cut central banks and hulking incumbent financial institutions out of retail money markets.<sup>7</sup> While not patently false, such claims ignore most of what actually happens in the NFT “space” and gravely downplay both the social and environmental ravages of proof-of-work blockchains as well as the liquidation of sensation from the aesthetic encounter.<sup>8</sup> In this article, I interrogate, from a loosely Marxist-psychoanalytic perspective, the subjective encounter with art under the NFT regime and the libidinal economy behind the NFT market, hidden in the hype, stoking an unprecedented exchange of electricity for cash, an “excess” in Bataille’s terms, a “prodigal... dissipation” that yields no physical accumulation and marks out the limits of growth.

NFTs are almost exclusively purchased in ether, the native currency of the Ethereum blockchain, where most of them live. The token itself is nothing more than a unit of data, simultaneously tracked and processed by the millions of central processing units (CPUs), graphics processor units

(GPUs), and application-specific integrated circuits (ASICs) that compute and constitute the blockchain's distributed ledger, housed in spaces ranging in scale from tabletop basement rigs to multi-acre mining farms. It is simply a coded description of an imaginary artifact, the value of which tends to climb the more its associated image circulates. As McKenzie Wark foretells, "The future of collecting may be less in owning the thing that nobody else has, and more in owning the thing that everybody else has."<sup>9</sup> The blockchain itself does not hold media, and NFTs should not be understood as any sort of media commodification. Rather, in an age of absolute image abundance, NFTs create scarcity not with respect to media but in a virtual space alongside it. The art maker, in this scenario, becomes money-printer, minting a coin and waiting to see if anyone else will place trust in its value. Collectors no longer fetishize art objects but rather their metadata and infrastructure—proof of their authenticity and the encryption process that secures it.

## NFTs as Currency and Consumption

The distributed ledger that supports NFTs, most cryptocurrencies, and another trending class of smart contracts known as decentralized autonomous organizations (DAOs) requires a majority of "nodes" to constantly arrive at consensus on the current state of all accounts (the *block*) and then to irreversibly encrypt their tally (the *hash*). Such "trustless" accounting—the defining element of proof-of-work blockchains and what marketers call Web3—works only at a massive scale of participation and demands ravenous energy consumption. The implications for our socially constructed meanings of, experiences of, and expectations for art could hardly be more profound, but they are not without precedent. David Joselit, for example, identifies art in the neoliberal age as a form of *currency*, "constituted through exchange" and "the dynamics of circulation."<sup>10</sup> Wark similarly sees contemporary art as "a special kind of financial instrument."<sup>11</sup> In the profile-pic series discussed above, where NFT ownership grants access to an exclusive Discord community, an art that mimics money also serves as a form of *social currency* for its owner, a tendency hardly limited to the "low" art NFTs represented by the uninspired, endlessly derivative series of Ice Bears and Baby Apes.

In 2018, the video artist Eve Sussman "atomized" her acclaimed 2004 work *89 seconds at Alcazár* into 2,304 unique NFTs, each one a 400-pixel square of the original high-definition video. The result, *89 Seconds Atomized*, is a collaboration between the artist and the "technology laboratory" Snark Art, "where the purchase of an artwork is just the beginning of a sophisticated and poetic experience."<sup>12</sup> On the OpenSea auction site, atom prices hover around .9 ETH (or about \$1,600) as of August 2022. Once purchased, they can be viewed individually on Snark.art, "or you can arrange a screening of the full piece by requesting a loan from the rest of the community of collectors" (Fig. 3). On the whole, *89 Seconds Atomized* promotes, again according to the sales copy, "an experiment in ownership and collective interaction."<sup>13</sup> In contrast to the Bored Apes and CryptoPunks, an "atom" of *89 Seconds* is nothing particularly recognizable, nothing one could identify as one's own, but instead a 20 x 20-pixel square of shifting color that only acquires coherence when assembled with others. Sussman and Snark Art thus further accentuate the marketability of community and the social-capital aspects of art collecting that those popular NFT series temper with more individualistic and identitarian ideals. The conclusion is clear: ownership entails community; the purchase of a single Sussman "atom" guarantees that others will want (to borrow) what one has, that one's participation will be perennially in demand, assuming the blockchain infrastructure survives.





***Figure 3. A randomized view of Eve Sussman's 89 Seconds Atomized (2018), with colored "atoms" representing owners who have loaned them to participate in the collective viewing of the work; black "atoms" represent an NFT that remains unpurchased, has been lost, or whose owner has declined the loan request that goes out whenever a viewing is to take place.***

Alas, some see such an assumption as deeply problematic. The artist-engineer Memo Akten calculates that the minting and first sale of a single NFT on the Ethereum blockchain burns roughly 340 kWh of electricity, 40 percent of the average monthly consumption of an American household, with a carbon footprint equivalent to a flight from Los Angeles to New York.<sup>14</sup> On this count, Sussman's project will spend 760,320 kWh just getting off the ground, equal to the average annual consumption of seventy-one American households, with carbon emissions comparable to nearly 14,000 hours of air travel. From Bored Apes to atoms of *Alcázar*, the overlay of art systems and financial systems—the *mutual becomings-consumption of art and money*—hangs on vast and anti-productive energy expenditure, with each new token pushing the composite system a little bit closer to its entropic end.<sup>15</sup> *Heat death becomes the ultimate afterlife of data.*

The desire for NFTs is a desire to participate in these speculative practices, to stake a claim in this space, and ultimately to claim a part in the riotous expenditure. But a bewildered tapestry of words and images obfuscates the real energy cost of such blockchain-based artifacts and distends the already widening gap between art as it is experienced and embodied and art as it is bought and sold. Our language contains no word to adequately bind the two heterogeneous aspects of the NFT: the circulating image and the symbolic token. Mainstream media coverage typically

describes the NFT as “representing” or “featuring” or “referring to” a given image, terms that paper over the arbitrariness of the connection. Even the slightly more accurate jargon of “association” perpetuates confusion over just what exactly is being consumed, clouding the real energy expenditure and climatological stakes of the NFT game.

For Wark, the value of contemporary art is entirely a byproduct of discourse: “What establishes the value of the work is that people talk about it, write about it, circulate pictures of it.”<sup>16</sup> To Brian Frye “the art market has always been a market in nothing—a trade in ineffable clout,” but NFTs take this to a new level, effectively “solv[ing] the problem of copyright” by abstracting “the prestige of ownership” from any concern for physical or intellectual property control.<sup>17</sup> Reading such commentaries alongside Bataille and Lacan, we can posit NFT discourse as an index of a vast consumption of energy resources without accumulation, in which all that is produced is the social reproduction of the system itself—and perhaps what Bataille describes as “that singularly excessive joy that engages being in its destruction.”<sup>18</sup> After the twining of liberalism and industrialization brought centuries of steady savings-minded austerity and growth to the Western world, we are today witnessing the necessary dissipation of excess in the name of utterly useless cryptocurrencies and often objectionable art.

## THE WORK OF ART IN THE AGE OF ALGORITHMIC ENCRYPTION

In the preface to his inspired 1935 essay on the industrialization of art, Walter Benjamin makes an important observation about the historic lags between economic and cultural transformations.<sup>19</sup> It took roughly half a century, by his estimation, for art to discover methods and effects commensurate with novel techniques of mechanical reproduction in the manufacture of commodities and consumer goods. Only with the advent of cinema, he claims, did the cultural superstructure finally truly match the technological capacities of the economic base. If, as popular discourse suggests, 2021 was in fact the “year of the NFT,” it is because this instrument has made it possible for art—and art *markets*—to slot into the prevailing prerogatives and profit structures of financialized and datafied capitalism that have developed and dominated since the 1970s.<sup>20</sup> By reordering the relationship between the spectator and the work of art, and through discursive engagement and the titillations of financial speculation, the NFT produces a subjectivity commensurate with the prerogatives of new regimes of data power and algorithmic governmentality. More an artifact of accounting than of art, the token replaces both the authenticating signature and the documentation of provenance, assuring them to perpetuity as ownership claims multiply in the absence of any necessary material attachment or determinate form.

An intangible aftereffect of algorithmic encryption and exorbitant energy consumption, the NFT signals nothing less than the total *datafication*—not to be mistaken for earlier processes of *digitization*—of art production. Where digitization brought a free and promiscuous multiplication of copies and threatened to annul or render inoperative modern intellectual property regimes, datafication and algorithmic encryption make possible the reassertion of ownership claims over art images at a more abstract level. With NFTs, artmaking becomes thoroughly integrated with new forms of capital accumulation through which the greatest wealth and social power accrue to those best equipped to tap into myriad flows of data—their solicitation, production, transmission, storage, aggregation, filtration, sale, analysis, erasure, and eradication.<sup>21</sup> Backers of NFTs promote a vision of art freed from the commodity form, extracting value not from a genuine

physical work of art (aura), or from any trade in material reproductions (mechanical arts), but from the algorithmically verifiable singularity of a work's *account* (data art), where the *work* in question is not the human assemblage of affects and percepts (as described in Deleuze and Guattari's *What Is Philosophy?*) but the computationally intensive minting of a token on the blockchain. As a means of protecting and proving ownership, blockchain technology appears antithetical to the free and open impulses of early Web culture. The NFT boom of 2021 indexes a more sweeping trend of heightened securitization and rigidification of networks, which operate less for the sake of unfettered information exchange and increasingly for the data themselves, trafficked from machine to machine with little use for the human. This is something I explore further in this article's concluding theorization of our dawning post-information society and its arts of indifference.

## Making Money Making Money

With the NFT, art—as an asset class and investment target—tracks the economic metamorphosis from industrial to data-based capitalism in ways that earlier digital formats and practices could not. From our perspective, much of the popular discourse around the digitization of art has, through its first half-century, exemplified the structural lag observed by Benjamin. For Benjamin, this should be understood in terms of the fundamental division in capitalist societies between, on one hand, the *work* as something experienced, seen, and felt and, on the other hand, its *commodity function*—a division, in other words, between the use-value and the exchange-value of art. Use-value originates as ritual-value, or cult-value, and persists in modern cultures' special observance of an art object's authenticity, singularity, and affective presence, which Benjamin famously calls its aura.<sup>22</sup> In the ages of mechanical and then digital reproduction, use-value retreats to increasingly rarefied cultural niches to escape an escalating profusion of *exchangeable* copies, something that Hito Steyerl, for example, captures in her exquisite takedown of “duty free art.” The NFT cuts against this current. Whereas Steyerl identifies and problematizes the growing international cadre of collectors turning to freeport art storage facilities in places like Monaco and Singapore to shelter their prized possessions from oversight and taxation, NFTs, at least on the surface, promote transparency and taut accounting. Steyerl's opaque “museum[s] of the internet era,” “where movement is obscured and data-space is clouded,” are now augmented by virtual-reality NFT galleries—and alternative methods of tax evasion via art investment.<sup>23</sup>

At the imaginary level—that is, the level of the relationship between the embodied spectator and the art object—NFTs suggest a reversal of this penchant for secrecy. Whereas the collector in the freeport art storage scenario possesses and transports a physical work of art, with all the glories and burdens this might entail, an NFT owner in most cases has no special relationship with the associated digital image and has the very same access to it as anyone with an internet connection.<sup>24</sup> Matters of copyability, exchangeability, and mass distribution become irrelevant when ownership rights cohere not around any such work but around that vaguely associated blockchain artifact called a *token*. Through tokenization, the arts and technologies of algorithmic encryption refurbish the aura of uniqueness, but they do so, importantly, *without* condemning the social promiscuity (and mass enjoyment) of the copy.<sup>25</sup>

The real novelty of NFTs rests mainly in the distributed bookkeeping of the blockchain, which is lauded by advocates as “trustless” and “immutable”, and which sustains not only NFT ecosystems but also those of cryptocurrencies and DAOs. The distributed ledger that supports NFT (and most



cryptocurrency) ownership rights and clears transactions requires a majority of nodes to constantly arrive at consensus on the current state of all accounts (the *block*) and then to irreversibly encrypt their tally (the *hash*).<sup>26</sup> It follows a clear neoliberal template, as the multitude of accountants—or *miners*, human-machine composites that I discuss below—effectively engage in little competitions to showcase computing power every ten minutes.<sup>27</sup>

In the case of NFTs, one no longer fetishizes an art object but rather the proof of its authenticity and the encryption process that secures it.<sup>28</sup> To make an art NFT, one simply follows a template for minting a token, which is to say art comes to be indistinguishable from money (crypto). With the *artist as minter*, money springs forth from spent energy with scant mediation, each token a distillation of the massive electricity required for the proof-of-work blockchain to revalidate itself and *rehash* its entire past 144 times per day.

## NFTs and the Aura of Ownership

In the epilogue to his essay on copy culture, Benjamin issues a clear-eyed warning with respect to technological and social upheaval: a new means of mass expression unaccompanied by a commensurate transformation of the property structure will have a “logical result of Fascism [and]... war.”<sup>29</sup> The NFT proposes a soft solution of sorts to the problem posed by mechanical and digital reproduction; it taps novel communications networks while leaving property structures untroubled. By remapping *uniqueness* from the presence of a work (its look, sound, feel) onto the *databased* fact of its ownership status and transaction history (the givens), the art NFT provides potent new technologies of (cultural and financial) expression to creators and collectors alike, but in a way that does nothing to upset existing regimes of ownership and property, but instead reinforces them.<sup>30</sup>

Invoking Benjamin, Arne De Boever argues for the necessity of a “communism of the copy” to combat “the potentially fascist values of authenticity, creativity, originality, and eternal value” that cling to aesthetic aura, but what the NFT delivers, he claims, is just the opposite: “With NFTs, those potentially fascist values are in fact realizing themselves once again in the digital realm, and in a development that Benjamin could not have foreseen ‘the aura’ becomes associated with the NFT artwork—not even the digital image of an artwork but a code as which the image lies recorded in the blockchain.”<sup>31</sup> In fact Benjamin did foresee this; in a little remarked upon passage, he describes how aura, as presence and manifestation of change over time, inheres in a document of provenance and transaction history as much as in the physical properties (the affects and the wear and tear) of a work itself. “This unique existence of the work of art determined the history to which it was subject throughout the time of its existence. This includes the changes which it may have suffered in physical condition over the years *as well as the various changes in its ownership*” (emphasis added).<sup>32</sup> This passage has gone relatively overlooked but appears incisive and prescient today, as blockchain-supported tokens now have the power to completely detach (sometimes exorbitant) values not only from material goods but from digital forms as well.<sup>33</sup> An NFT oozes aura by definition: *non-fungible* means there is nothing else like it; it cannot be equally exchanged. But in most cases with art NFTs, value is generated not through a thing’s presence but through the distributed copresence of an imaginary thing’s account on a consensus majority of miners on the blockchain.<sup>34</sup>

What is *unique* is the encrypted code or hash that re-presents and validates one’s ownership *anew* with each next block’s computation on the chain.<sup>35</sup> This act of automated, decentralized,

collective authentication is also an act of policing. In addition to empowering artists, NFTs promote a securitization of art that purports to solve the social problem of the copy: while minters can tokenize something they have no license to, tokens themselves, allegedly, cannot be forged. Through reiterative hashing, the blockchain forecloses the ambivalence of the past, its very pastness, and its susceptibility to misrecognition and retroactive manipulation. The past is thus never fully past *for* any present since it itself is always being re-presented. What a blockchain-based smart contract automates is precisely the way the past shapes the present, what the present takes up of the past; it caps the potency of the past as well as our human (social, collective) power to reckon with it, to rearrange its signs and influences, and to transfigure the future anew. A DAO works similarly, laying everything out in advance, locking in the future. What legal scholars Primavera De Filippi and Aaron Wright call “rule of code” I am more inclined to call the automation of authority, which I see leaning on a heady mix of libertarianism and authoritarianism that finds intellectual roots in Friedrich Hayek’s introduction of the concepts of “spontaneous self-organization” and “abstract rule” into governmental and social theory, and which today demands a rigorous critical economic analysis that is as libidinal as it is political.<sup>36</sup>

## Art Discourse as Counterrevolutionary Art

If NFTs can be said to exist beyond the abstract level of code, it is insofar as they are talked about, in the way they are talked about, and in the pre-individual and trans-personal circulation of affect and desire and attention amidst all that talk. I take this discourse as an effective measure of *libidinal captation*, a term that hybridizes the post-Lacanian cultural philosophies of Lyotard and Deleuze with more recent theorization of market dispositifs by sociologist Franck Cochoy.<sup>37</sup> I contend that NFT *discourses*, from the professional-journalistic to the corporate-propagandistic to the hobbyist and artisanal, constitute the scaffolding upon which NFT markets exist. Lower-end NFT art markets in particular would be inoperative were it not for Reddit and Instagram and the opportunities such platforms open to art-makers to promote, distribute, and solicit public encouragement for their work, as in the way that “hodl” memes function in crypto forums when the markets are looking bearish, an affective binding of the community through tough times.<sup>38</sup> But unlike traditional art markets, which likewise thrive on talk and fantastical speculation, here there is nothing behind the scaffolding. These discourses help to form subjectivities primed to the newfound joys of competitive accounting and the explosive (and equally implosive) cult -values of cryptocurrency.

Looking at discourse helps us see what fears and anxieties and stimulations have most effectively captured the energy and attention of a culture; it affords insight into the linguistic formation of the problem-horizon of social control. The voluminous (digital) ink spilled over NFTs in 2021—from niche social media to Silicon Valley and fine-art journalism—suggests a culture of ownership no longer threatened by the copy but one entranced by the imperceptible uniqueness of algorithmic encryption and the professed security of massively redundant “distributed” bookkeeping.

Technologies of algorithmic encryption displace both the challenges and the achievements of mechanical reproduction in the arts and thus mandate an analytical schema that goes beyond the usual bipartite distinction between the singular work of art (as a composite of affects and percepts, as use) and the infinitely repeatable art-commodity. The NFT offers aura at scale, but only partially; it realizes a dream of popular access to high (and high dollar) art by evacuating art more or less entirely from the realms of sense and sensation. In Benjamin’s analysis, technologies

of mechanical reproduction in economy and culture alike were essential to the formation of the masses in nineteenth-century Europe; by the 1930s, they were playing a pivotal conceptual role in the communist struggle against the twin ills of capitalism and fascism. Mechanical reproduction has the potential to catalyze mass movements, even as it churns out endless, unvaried schlock; tokenization, by contrast, tends to a fractured socius governed by algorithmic personalization and manufactured scarcity, reasserting the agency and acquisition power of the individual over the mass.

To Benjamin, the revolutionary power of mechanical reproduction is attributable to the swift violence it brings against the notion of art as private property. Art NFTs countermand this trend by fortifying the status of art as property (the *propertarianization* [to use Piketty's term] of art) and discovering newfound use-value in the "trustlessness" and "immutability" of the blockchain. Under conditions of late capitalism, the social and political operations of art production, consumption, and collection have undergone epoch-making change, yet the ownership ideology, property regime, and class compositions remain unaltered. In Benjamin's view, this is an open door for fascistic impulses to take hold; the techno-kitsch and latent misogyny of the most mainstream NFT art (for instance, Beeple's famous *Everydays* [Fig. 4]), combined with the attendant contempt for fiat money and social spending policies in the adjacent cryptocurrency scene, do little to allay such concerns.

## SUBJECTIVITY, DISCOURSE, AND DESIRE

NFTs may augment the digital dematerialization of art, but they interface with formative psychical and social processes in significant and material ways, contouring subjectivities along new lines of discourse, aesthetic imagination, and infrastructure. In this section, I track the shifting ground of spectatorship, desire, and the encounter with blockchain-based art. My prevailing question is fundamentally psychoanalytic: *How do libidinal energies get directed towards and trapped in art images and in discourses around art?* In the emerging techniques and architectures of NFT markets, processes of individuation of both spectator and image get truncated, detoured, and tangled up. Lacan's tripartite scheme of subjective experience affords a more complete picture of how, in the case of NFTs, the aura of uniqueness incites desire and how particular subjects of desire consolidate around collective imaginings of scarcity, originality, and acquisition. NFT art markets entangle subjects through images (the Imaginary) and through discourse (the Symbolic) as well as through the pure and profligate energy consumption required to clear transactions and cryptographically hash each block on the chain (the Real).

Fueled by rote promises of democratizing art through decentralized, non-hierarchical gatekeeping, NFTs *predispose* subjectivity from at least three distinct angles: first, at the level of the image, through an algorithmic filtering of affect and percept that confronts the spectatorial ego less often with an individual work than with a series (Beeple's *Everydays*, CryptoPunks, Bored Ape Yacht Club) or a cycle (as in a video clip formatted as a GIF); second, at the level of *human*-processable symbols, a preponderance of discourse that risks mistaking accounting for art and financial speculation for aesthetic investment; and third, at the level of real energy expenditure, through an enticement to profligate consumption that some critics have likened to a collective cryptofascist death wish.<sup>39</sup> At the very least, it will appear a tragedy to some that collective human desire should be trapped like this in a constant, hypercompetitive, massively redundant, exorbitantly wasteful circuit of accounting and talk thereof.<sup>40</sup>

## Between the Image and the Viewing Subject

Beyond the purely imaginary aesthetic relationship between viewer and artwork, the NFT *is* little more than its discursive scaffolding.<sup>41</sup> My point is not that the token does not exist, but that its *actual* manifestation—where it really comes *alive*—is in the discourse around and about it: the press attention, the auction buzz and advertising hype, the podcasts and subreddits and Discord servers and Twitter threads. For their attention to the essential role of speech, language, and symbolic exchange in the shaping of the psyche and the acculturation of the subject, Lacan's mid-1950s seminars supply a rich set of tools for navigating the phenomenon of NFTs.<sup>42</sup> One of Lacan's overt goals was to supplant the then-standard psychoanalytic focus on ego-object relations by insisting on the linguistic specificity of desire. Lacan asserts that understanding this inevitable linguistic encoding and decoding of desire is essential to getting Freud right, and it prompts some of his most innovative and important work interrogating the function of language in structuring the unconscious.

For example, in his lectures on Freudian wit and the structure of the unconscious, Lacan diagrams an extraordinarily complex circuit through which subjectivity forms in the basis of communicating with others, where “the very heart of the problem [of psychoanalysis],” he says, is “the relationship between signifiers and desire. Desire is profoundly changed in its emphasis, subverted and rendered ambiguous by its passage through the pathways of the signifier,” meaning that “satisfaction is always granted in the name of a certain register that brings the Other into play beyond the person making the demand.”<sup>43</sup> Invoking and co-involving the other by putting desire into words precipitates the possibility of pleasure simply through participating in discourse.<sup>44</sup> It also leads Lacan to conclude that in every case “desire is caught up in the mechanism of language,” and that we in turn are “destined to this never-to-be-satisfied, infinite approach linked to the very mechanism of desire, which we shall simply call discursiveness.”<sup>45</sup>

Lacan's core insight—that desire and subjectivity are always and inescapably bound up in language—helps us understand NFT art as being energized at a collective or unconscious level less by the desirability of the art than by the desirability of the discourse around it. From the torrents of mainstream press coverage of high-dollar sales and high-profile players (“Beeple NFT fetches unprecedented \$69.3M at Christie's”<sup>46</sup>; “Soaring NFT sales redraw the art market”<sup>47</sup>; “Teens cash in on NFT art boom”<sup>48</sup>) to the continuous streams of Redditor comments trailing each “giveaway” and each post of a hobbyist's new mining rig component, it is discourse that whips up and corrals desire for NFT art and the cryptocurrencies that it trades in. Here the object of desire is neither an artwork nor a right to profit from its copy but simply participation in a scheme, a ticket to an exclusive backchannel conversation.

As with any object of human desire, the art NFT materializes through discursive articulation and so must conform to what Lacan describes as a “machinic” “insistence of signs,” referring to the impersonal nature of language, its having always already been there as a “third party” to any communicative exchange, its injunction that its users follow certain rules and customs if they want their expressions to be sensibly understood by another.<sup>49</sup> In the case of the art NFT, what becomes pointedly clear is the extent to which what drives desire is less an encounter with images than participation in a discourse, slotting oneself and one's symbolic expression into this

perpetual efflux of signs. Herein circulate the *joys of accounting*—the pleasures in participation and in the shared inhabitation of language and signs.

## Mining Subjects

Ensnared in the discursive weave of the press, promoters, and market participants, subjects first imagine themselves playing a part in this world, and then demand to join in. But, in the libidinal and political economics of art NFTs, there is another important sphere of discourse to consider in our libidinal economics of NFTs, through and beyond the “insistence of signs,” towards the Lacanian real, that is, the profligate consumption of energy mediated by custom-assembled data-crunching hardware. Paring away the imaginary relationships and the discursive exchanges, we see NFTs projecting an art system built on a style of bookkeeping abstracted and refined to become little more than a measure of energy expenditure and resource exploitation.<sup>50</sup>

Crypto-mining communities on social media exemplify the sort of *talk* that not just supports but *substantiates* the social existence of NFTs. Behind the scenes, mining communities play an especially important role in the functioning of the NFT machine, serving as *energetic* conduits, communicative sites closest to the machinic accounting process, which stage electricity consumption as a performative act requiring human energy output in the form of social media posts extolling mining rigs, cooling hacks, and the like. These small-scale extractive communities are sustained through discourse, which directly incites further resource extraction and expenditure.

As a distillation and measure of extractive efficiency, the NFT survives first and foremost on these oft forgotten bodies and lives in the mines, which also include those laboring in massive mining farms (often tucked away in the frozen North) as well as those in the rock mines of South America and Africa, collecting the cobalt, tungsten, copper, and other metals necessary for the production of ever-faster GPUs and ASICs.<sup>51</sup> But it is the enterprising home hobbyists who best exemplify the way talk and participation sustain the enormous labor supply essential to blockchain technology. I take the profuse multimodal social media discourse around mining hardware, assemblies, and optimization techniques as perhaps the cultural expression closest to the extraction and profligate energy consumption at the heart of the system. Instances of this discourse almost always include an image or a screenshot and range in topic from technical troubleshooting to braggadocious claims of (and subsequent disputes over) exceptional attainments in power, cooling, and efficiency (Fig. 4).

↑ 202 ↓  
 r/NiceHash · Posted by u/Head-Negotiation4713 1 day ago  
**6 RTX 3090 Water-cooled Mining Rig**  
 Rig Showcase



6 RTX 3090 - EKWB Active Backplates

↑ 202 ↓  
 r/NiceHash · Posted by u/Head-Negotiation4713 1 day ago  
**6 RTX 3090 Water-cooled Mining Rig**  
 Rig Showcase

GeForce RTX 3090	Status	Temp.	VRAM T.	Load	MemCtrl Load	Fan	Power	Efficiency
DaggerHashimoto: 115.88 MH/s	Mining	50°C	72°C	100%	100%	30%	269W	0.22 MH/J
GeForce RTX 3090	Status	Temp.	VRAM T.	Load	MemCtrl Load	Fan	Power	Efficiency
DaggerHashimoto: 121.12 MH/s	Mining	43°C	66°C	100%	100%	0%	280W	0.43 MH/J
GeForce RTX 3090	Status	Temp.	VRAM T.	Load	MemCtrl Load	Fan	Power	Efficiency
DaggerHashimoto: 121.12 MH/s	Mining	40°C	62°C	100%	100%	0%	281W	0.43 MH/J
GeForce RTX 3090	Status	Temp.	VRAM T.	Load	MemCtrl Load	Fan	Power	Efficiency
DaggerHashimoto: 121.01 MH/s	Mining	46°C	74°C	100%	100%	0%	285W	0.42 MH/J
GeForce RTX 3090	Status	Temp.	VRAM T.	Load	MemCtrl Load	Fan	Power	Efficiency
DaggerHashimoto: 121.01 MH/s	Mining	46°C	68°C	100%	100%	0%	298W	0.41 MH/J
GeForce RTX 3090	Status	Temp.	VRAM T.	Load	MemCtrl Load	Fan	Power	Efficiency
DaggerHashimoto: 121.12 MH/s	Mining	42°C	68°C	100%	100%	0%	297W	0.41 MH/J

Mining Rig Stats

**Figure 4. Mining discourse, Reddit screen grabs. The most eye-catching and/or statistically impressive posts can accumulate hundreds of upvotes and comments within hours.**

I am not suggesting that this discourse somehow touches the real. On the contrary, like the discourse on the art-images themselves, this mining discourse, from care tips to rig porn, puts into words and images an ego-object relationship between subject and machine. The difference is that, for those regulars on the Reddit boards (r/BitcoinMining, r/EtherMining, r/NiceHash) and Facebook groups (GPU Crypto Mining Club, Bitcoin Mining), the object of desire is not a token or the idea of an image but the hardware itself—and the data that details its power and performance. Nevertheless, in surveying these groups, one catches a sidelong glimpse of the squandering of energy at the heart of the proof-of-work blockchains sustaining the NFT mania (and the crypto mania that preceded it). As Lacan suggests, the real will always escape symbolization, but it is also what is necessarily masked by—and thereby furtively present in—every symbolizing act. The way blockchain miners consistently talk *around* energy and efficiency serves as a crystalline illustration of this point.

## DATA BEYOND INFORMATION

To the extent that NFT discourses continue to perpetuate false symmetries between token and art, and because the endgame for its backers is “to tokenize *anything* that is unique,”<sup>52</sup> ERC-721, the



token standard according to which a vast majority of NFTs are minted, threatens to flatten aesthetic experience and dampen the power of a work by valuing its preciousness only in the abstract. While blockchain tokenization can indeed streamline art authentication and give artists a means to guarantee royalties from secondary sales, making “everything” accountable ultimately amounts to a vast proliferation of chokepoints for social control, and the mechanism for ensuring that artists profit from secondary sales does just as much to buttress archaic regimes of wealth inheritance.<sup>53</sup>

Having no necessary relationship with the thing (the work, the image, the file) with which it is associated, an NFT is more an artifact of accounting than of art. The token replaces both the authenticating signature and the documentation of provenance. The novelty is that the accounting ledger itself, having become autonomous from the work and free from the realm of physical objects, is now where all the value resides.<sup>54</sup> Ownership claims multiply in the absence of any necessary material attachment or determinate form. Tokens are but strings of code, intelligible only to machines and only in the presence of a multitudinous network of tele-present machines. Turning the (exchange-biased) tides of mechanical and digital reproduction, the technoculture of the Web3 moment locates aura not in the singular presence of a thing but in the distributed singularity of its account, its reduplicative registration on the hundreds of thousands of mining rigs that constitute a blockchain.

## A Share in the Entropy

The mathematician and cybernetician Norbert Wiener described information as intimately and inextricably imbricated with the persistence of specific forms of life. He understood his and Claude Shannon’s contemporaneous pioneering definitions of information—as measure or countermeasure of entropy—as a significant rejoinder to the hegemony of thermodynamics in the physical sciences. Indeed, a key feature of cybernetics—and, later, biological systems theory, autopoiesis, and complexity science—is the way it highlights the biological and ontological viability of organisms of all kinds swimming against the sea of entropy described by thermodynamics’ second law, which plots all organized systems on a track to disorder and chaos by way of steadily increasing temperatures. As Wiener explains:

We are immersed in a life in which the world as a whole obeys the second law of thermodynamics: confusion increases and order decreases. Yet, as we have seen, the second law of thermodynamics, while it may be a valid statement about the whole of a closed system, is definitely not valid concerning a non-isolated part of it. Processes that decrease the entropy locally we call “ergodic.” There are local and temporary islands of decreasing entropy in a world in which the entropy as a whole tends to increase, and the existence of these islands enables some of us to assert the existence of progress. (Norman Wiener, *The Human Use of Human Beings* [Boston: Houghton Mifflin], 1954), 44)

As the planetary ecosystem tends towards the sameness of inevitable heat death, pockets of life—local systems, as vehicles for information—nevertheless develop and grow, somewhat like those conserving, accumulating cultures described by Bataille. Information, mathematically understood

as the result of a decision between equally probable alternatives and calculated as the inverse of entropy, is what keeps organisms and entities together in the face of universal forces of decay.<sup>55</sup> Bataille's slightly later formulation of the alternation of conservative accumulation with profligate consumption invokes Wiener but collapses the universal and the individual into the single term culture, with cultures themselves on the whole tending towards relative differentiation and order on the one hand, or towards relative confusion and decay, on the other. The persistent popularity of both cryptocurrencies and NFTs proposes a becoming-same of money and art and a collapse of both into pure energy consumption.

To be sure, mechanical reproduction too relies on significant resource expenditures to keep the machinery churning away. And cryptocurrency advocates are fond of tallying all the energetic requirements of a fiat monetary system: all the humans needed to staff the bureaucracy and in turn, all the food and electricity needed to keep those humans alive. But now it is not for the sake of multiplying an image-object that the energy is spent, but for the sake of confirming the ownership rights to something that exists exclusively in the realm of data. Likewise, cryptocurrencies function neither as reliable stores of value nor as common means of exchange, but only as local units of account, virtual proof that one has a stake in the system and a share in the squander. The true "democratic" dream of the blockchain metaverse (crypto, NFTs, DAOs) is but a smokescreen for a dissipation of social responsibility under the sign of profligate energy consumption, a wish for everyone to partake in the new rituals of planetary self-destruction.

## The Art of Indifference

The implications for aesthetic experience are profound. NFTs radically accelerate a process that social systems theorists call *dedifferentiation*, whereby traditionally distinct cultural systems, in this case art systems and economic systems, increasingly merge and blur. With the invention of Bitcoin—specifically, the conceptualization and coding of its proof-of-work blockchain—money achieves the *uselessness* of art in a way that the high-flying derivative instruments that brought down the global financial system in 2007–08 could only dream of. With the advent of the art NFT, the convergence of art and money appears complete; in the most literal sense, at the level of data, the art token itself is indistinguishable from a unit of cryptocurrency like Bitcoin or Ether, relative fungibilities notwithstanding. Each type of token indexes the conversion of electricity into money through the composite apparatus of data-crunching hardware and libidinally saturated structures of social media expression. Money no longer needs the intermediary form of the art-commodity for its multiplication, and ownership rendered by data no longer requires an empirical referent for it to be in force.

In cyberneticist-anthropologist Gregory Bateson's well-known phrase, information is "a difference which makes a difference,"<sup>56</sup> a definition in keeping with the common computer science distinction, which understands data as raw, and information as organized. The raw data power conferred by NFTs signals a new regime of post-information art, where the presence or absence of an electrical pulse—the foundational physical element of information—registers at a machinic level but need not become eventful for human beings.<sup>57</sup> When it does become so, it has less to do with any subjective experience of art than with the discourse-community that one gets access to with an NFT purchase, from the Ice Bear Discord servers to the "at-will... [communal] reassembl[ings]" encouraged by Sussman's *89 Seconds Atomized*.<sup>58</sup>

The bulk of the art, much of it AI-generated, is, to put it bluntly, bad—unmemorable, derivative, gimmicky, juvenile—and in some quarters, exoticizing, racist, reactionary, and misogynistic (Fig. 5). NFTs thus suggest an *art of indifference*, having nothing specifically to do with art at all but where public clamor and popular attention hang more on the metadata than they do on the work. The liberation of data from information, in the instance of the NFT, detours the process of subjectivation through aesthetic encounter, rearranging the embodied subject's relationship with art and displacing the efficacy of and desire for the image onto that object's record and account.



***Figure 5. Extracts from Beeple's notorious Everydays: The First 5,000 Days (2007–2021), with their original captions. Everydays sold at Christie's for \$69.3 million in March of 2021. The exorbitant (and likely artificially inflated) sum did much to popularize NFTs, but most depictions of the work present it in its collage form, with its 5,000 individual elements impossible to identify, while the profuse media discourse around the work makes scant mention of the racist, misogynist, and reactionary content of many of the images.***

Here the popularity of NFT art indicates a broader shift towards what we might call a post-information economy, wherein data can be produced, consumed, and profited on without appearing as information or passing through any informatic substrate. The advent of NFTs and other blockchain artifacts allows us to wager a somewhat unorthodox distinction between data and information, with data (from Latin *datum*) as what is given, information (*in-formation*) as necessarily implicating a subjective interface, partway to pattern recognition, interpretation, and action. Data are collected, sorted, and routed by algorithms; information is something sent and received and thereby knotted up with practices of subjectivation. Data are difference, but only as information can data *make a* difference. While proponents pitch blockchains as our salvation from surveillance capitalism and the ad-driven Web, the foregoing analysis reveals such treatments to be either self-serving or naive.<sup>59</sup> From mining and minting to secondary sales, the

lifecycle of an NFT—any individual or collective enjoyment of its associated image notwithstanding—rides on the production of data that never get *metabolized* by humans in the form of information. Far from revolutionary, blockchain’s current manifestations—as cryptocurrencies and smart contracts, NFTs and DAOs—almost all operate on data-based logics of indifference: as much to humans as to art.<sup>60</sup>

In their current forms, with their current energy infrastructures, most NFTs and most cryptocurrencies suggest a significant cultural turning point in what Bataille refers to in our epigraph as the periodic “alternation of austerity... with prodigality,” that is, ages of conservation, accumulation, and growth with periods of pure and total expenditure or consumption. Since the development of capitalism and the onset of industrialization, European culture tended to stress saving and investment with an eye towards steady systemic growth; to bourgeois economists, the market itself operates along the lines of a complex, self-organizing cybernetic organism. The explosion of Bitcoin in the 2010s and early 2020s—with its gloriously wasteful proof-of-work blockchain infrastructure—points to a dramatic reversal that with NFTs has spilled over into the world of art. Now, instead of parking money in physical art objects, for example, or reinvesting in the machinery of mechanical reproduction, capitalists busy themselves swapping fungible cryptocurrency tokens for non-fungible “art” tokens boosted by identitarian appeal, a way for predominantly white male investors to fantasize about having “unique” or non-normative identity profiles as they set the world to burn. Early adopters and industry insiders take it as a given that some will burn faster than others.<sup>61</sup>

## ENDNOTES

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<sup>1</sup> Duncan MacDonald-Korth, Vili Lehdonvirta, Eric T. Meyer, and The Alan Turing Institute, “Art Market 2.0: Blockchain and Financialisation in Visual Arts” (London: The Alan Turing Institute, 2018).

<sup>2</sup> Georges Bataille, *The Accursed Share*, vol. I, *Consumption*, trans. Robert Hurley (New York: Zone Books, 1991), 87.

<sup>3</sup> As I prepare the article for publication, in summer of 2022, the NFT markets, following the cryptocurrency markets, have plummeted dramatically, yet the popularity of such AI-generated profile-pic NFT giveaways on Reddit boards and elsewhere has hardly waned.

<sup>4</sup> Isabelle Lee, “Sales of Bored Ape Yacht Club NFTs Jump Past \$1 Billion amid Heightened Interest from Celebrity Collectors,” *Business Insider*, January 4, 2022, <https://markets.businessinsider.com/news/currencies/bored-ape-yacht-club-nft-sales-1-billion-opensea-bayc-2022-1>. Wash trading is the highly controversial, barely (if at all) legal tactic whereby an NFT owner takes advantage of the relative opacity of the crypto-marketplace to use multiple accounts to artificially drive-up auction prices and inflate the value of their holdings.

<sup>5</sup> The bias here so heavily favors the spectator or collector that Droitcour rightly questions whether we should even call these *works* of art. “Tokens bearing that kind of imagery are called collectibles, which are not quite the same as artworks. ‘Work’—and more specific terms like ‘painting’ and ‘sculpture’—refer to what the artist does. ‘Collectible’ tells you what a consumer can do with the product.” Brian Droitcour, “How to Look at NFTs,” *Art in America* (March 4, 2021).

<sup>6</sup> <https://www.ft.com/content/e95f5ac2-0476-41f4-abd4-8a99faa7737d>.

<sup>7</sup> See Ethereum.org: “NFTs are giving more power to content creators than ever before..., powered by smart contracts on the Ethereum blockchain.” Mainstream press has been quick to pick up this optimism, as seen in headlines like “These Artists Are Helping Fight Gender Inequality Through the Power of NFTs” (Globe News Wire) and “NFTs Are Bringing Fresh Opportunity to The Black Art World” (Yahoo!). The business journalist and author of *Blockchain: The Next Everything* (New York: Simon and Schuster, 2019) Stephen P. Williams rapturously predicts that blockchain technology will eventually usher out big-tech gatekeepers like Google and Facebook by granting individual Internet users full control over their data and, in so doing, will drastically transform the experience of being online. Stephen P. Williams, *Blockchain: The Next Everything* 35, 149. The “old... Internet of information,” he claims, will be replaced by a new “Internet of value and truth” (32). I exploit this line of thinking below in my theorization of data beyond information. For a comprehensive overview of the libertarian monetary theorist perspective on cryptocurrency, see Saifedean Ammous, *The Bitcoin Standard: The Decentralized Alternative to Central Banking* (New York: Wiley, 2018).

<sup>8</sup> The language of “space” is widespread in current parlance, perhaps betraying some underlying trepidation at how something so ethereal can have such profound material consequences (in the form of energy consumption, as detailed below). My sense is that, in almost every instance, “space” simply means “market,” although those who talk in this way may not quite intend it as such.

<sup>9</sup> McKenzie Wark, “My Collectible Ass,” *e-flux* 85 (October 2017): n.p.

<sup>10</sup> David Joselit, *After Art* (Princeton: Princeton University Press, 2013), 2–3.

<sup>11</sup> Wark, “My Collectible Ass,” n.p.

<sup>12</sup> <https://snark.art>.

<sup>13</sup> From the product copy at OpenSea. [https://opensea.io/collection/89-seconds-atomized-v5?search\[sortAscending\]=true&search\[sortBy\]=UNIT\\_PRICE](https://opensea.io/collection/89-seconds-atomized-v5?search[sortAscending]=true&search[sortBy]=UNIT_PRICE).

<sup>14</sup> See Andy Storey, “How Much Energy Does It Take to Make an NFT?” *Poster Grind* (January 2022), <https://postergrind.com/how-much-energy-does-it-take-to-make-an-nft/>; Memo Akten, “The Unreasonable Ecological Cost of #CryptoArt (Part 1),” *Medium* (December 2021), <https://memoakten.medium.com/the-unreasonable-ecological-cost-of-cryptoart-2221d3eb2053>.

<sup>15</sup> <https://digiconomist.net/ethereum-energy-consumption>.

<sup>16</sup> Wark, “My Collectible Ass,” n.p.

<sup>17</sup> Brian L. Frye, “Clout and Control,” *Outland*, December 2021: n.p.

<sup>18</sup> Bataille, *The Accursed Share*, vols. II and III, *The History of Eroticism and Sovereignty*, trans. Robert Hurley (New York: Zone Books, 1993), 110.

<sup>19</sup> “The transformation of the superstructure, which takes place far more slowly than that of the substructure, has taken more than half a century to manifest in all areas of culture the change in the conditions of production.” Walter Benjamin, “The Work of Art in the Age of Mechanical Reproduction,” *Illuminations*, ed. Hannah Arendt, trans. Harry Zohn (New York: Schocken Books, 1986), 217–18.

<sup>20</sup> The discourse is copious. Year-end headlines include: “2021: The Year of the NFT” at *Yahoo!*; “2021 Year in Review: The Year of the NFT” at *The Economic Times*; “2021 Has Been the Year of the NFT. But What Exactly Is an NFT?” at *Art News*; “The Year of the NFT from ArtDrop to CarbonDrop” at *Forbes*.

<sup>21</sup> Geraldine Juárez calls it “the new and utterly regressive contract between art and crypto-finance.” Geraldine Juárez, “Ghostchain. (Or Taking Things for What They Are),” *Paletten* 325 (May 2021): n.p.

<sup>22</sup> Walter Benjamin, “The Work of Art in the Age of Mechanical Reproduction.” Joselit admonishes us to “not indulge nostalgically in Benjamin’s despair at the loss of aura” (*After Art* 13), but this

sentimentalist gloss on Benjamin's view is profoundly inaccurate. Benjamin ultimately endeavors, in the "Work of Art" essay, to combat the resurgence of aura in fascist art and culture by prizing the politicization of aesthetics in early Soviet cinema and identifying the copy as a distinct threat to capitalist property regimes. He also ascribes an "unapproachability" to the cult or ritual image that the aura of modern art can only feign, approximate, and paper over (243n5). De Boever points out that in many ways the NFT succeeds where modern art could not: "It seems clear that what has thus opened up is another regime of art. In his essay on the copy, Benjamin wrote of the shift from *cult value*, associated with the fascism of the original, to *exhibition value*, associated with the communism of the copy. Today, we are witnessing the anachronistic, zombie-like return of cult value within exhibition value, a regime that can be understood as the *crypto value* of the work of art." Arne De Boever, "The End of Art (Once Again)," *b2o* (March 29, 2021): n.p. <https://www.boundary2.org/2021/03/arne-de-boever-the-end-of-art-once-again>.

<sup>23</sup> Hito Steyerl, *Duty Free Art: Art in the Age of Planetary Civil War* (London: Verso Books, 2017), 83.

<sup>24</sup> As Joselit puts it, "The NFT is a social contract that values property over material experience." David Joselit, "NFTs, or The Readymade Reversed," *October* 175 (2021): 3–4.

<sup>25</sup> "Lastly, the work continues to exist in its pre-tokenization form, as a file that can circulate in the promiscuous, unauthenticated way that any other file does" (Droitcour, "How to Look at NFTs").

<sup>26</sup> A hash function, such as the SHA 256 standard of the Bitcoin blockchain, effectively converts data of arbitrary size to fixed, standardized size values. This is why Ammous, among others, can liken the cryptocurrency future to the gold *standard* of yore.

<sup>27</sup> In a proof-of-work system, which Bitcoin, Ethereum, and most other blockchains are, the systems are competing to find the "nonce," a secret, bespoke random number that seals the consensus block; they do this by generating as many random numbers (of the correct size) as fast as possible, which demands massive processing power, cooling solutions, and energy needs. As this article goes to press, the Ethereum "merge"—the long-anticipated changeover from a proof-of-work to a proof-of-stake blockchain system—is underway, but its perdurability remains to be seen. To complicate matters further, many leftists and anarchists in the blockchain community make the case that proof-of-stake, while requiring far less energy consumption, still does not amount to anything close to a democratized blockchain but rather consolidates network power in different hands and through different institutional routes.

<sup>28</sup> As Droitcour wryly remarks, it is "an investment in tech with a veneer of supporting the arts" ("How to Look at NFTs").

<sup>29</sup> "Fascism sees its salvation in giving the masses not their right, but instead a chance to express themselves," Benjamin insists. "Only war makes it possible to mobilize all of today's technical resources while maintaining the property system" ("The Work of Art," 241).

<sup>30</sup> I follow Thomas Piketty's meticulously documented timeline for the rise, crisis, and conquering return of ownership societies. According to Piketty, "propertarianism," having been the status quo in Europe and its colonies since the bourgeois revolutions of the eighteenth and early nineteenth centuries, underwent a sweeping transformation from 1914–1980 that saw economic and social gaps in equality shrink in unprecedented ways, only to have ownership vindicated anew and inequalities surge once again under names like Reagan and Thatcher. Thomas Piketty, *Capital and Ideology*, trans. Arthur Goldhammer (Cambridge: Harvard University Press, 2020). See especially 99–125, 415–85, and 648–717.

<sup>31</sup> De Boever, "The End of Art (Once Again)," n.p.

<sup>32</sup> Benjamin, "The Work of Art," 220.



<sup>33</sup> In an alarming number of high-profile NFT auction sales, prices are inflated through wash trading, which takes advantage of the blockchain's anonymizing treatment by bidding under multiple accounts and selling art to oneself (see <https://www.nbcnews.com/tech/security/nft-sales-show-evidence-wash-trading-researchers-say-rcna14535>). In this way, art forgery has been replaced by price hacking—a fraud that intervenes at a different point in the circuits of the market.

<sup>34</sup> An NFT can also track and authenticate actually existing unique physical objects like antique furniture, jewelry, or other craftworks. In these cases it can serve as a useful document of provenance, but whether it is worth the energy costs of a proof-of-work blockchain is debatable, particularly in cases when adequate paper documentation and/or privately and centrally held digital documentation provide sufficient security from fraud, theft, and misuse.

<sup>35</sup> Each of these *rehashings* is referred to in the technical jargon as a “block”; the rolling tally is the *block-chain*.

<sup>36</sup> Primavera Di Filippi and Aaron Wright, *Blockchain and the Law: The Rule of Code* (Cambridge: Harvard University Press, 2018).

<sup>37</sup> Franck Cochoy, “A Brief Theory of the ‘Captation’ of Publics: Understanding the Market with Little Red Riding Hood,” *Theory, Culture & Society* 24 (2007): 203–23.

<sup>38</sup> The “hodl” meme originated in 2013 with an intentional misspelling of “holding” on a Bitcoin blog. Since then, it has become a rallying cry for cryptocurrency enthusiasts during market dips and, in meme form, is commonly combined with film and other pop culture imagery connoting courage in the face of fear.

<sup>39</sup> In the case of proof-of-work blockchains, the data do more than symbolize ownership; they are also an index of the real. A libidinal economics of art NFTs should grasp that it is about both *our desire for data* and the fact that the data being processed by the network are *data of our desire*.

<sup>40</sup> Insofar as *control* etymologically derives from accounting (from the *counter-roll* of double-entry bookkeeping), we might consider the NFTs discussed here in terms of an aesthetic regime commensurate with contemporary societies of control.

<sup>41</sup> Often in the case of giveaways like Ice Bear Society, the *talk* is simply random 22-digit alphanumeric strings representing users' wallet addresses.

<sup>42</sup> Most pertinent for us are the 1954–1955 and the 1956–1957 courses, *The Ego in Freud's Theory and in the Technique of Psychoanalysis* and *Formations of the Unconscious*.

<sup>43</sup> Jacques Lacan, *Formations of the Unconscious*, ed. by Jacques-Alain Miller, trans. Russell Grigg (New York: Wiley, 2020), 79.

<sup>44</sup> Continuing his discussion of witticisms, Lacan writes that “[w]hat prolongs the effect of signifiers is when they are resolved into their own authentic pleasure, the pleasure we get from using signifiers.” *Ibid.*, 82.

<sup>45</sup> *Ibid.*, 110. Later in the same work, he claims, “The symbolic relation is constituted as early as possible, even prior to the fixation of the self-image of the subject, prior to the structuring image of the ego, introducing the dimension of the subject into the world.... The imaginary experience is inscribed in the register of the symbolic as early on as you can think it” (257).

<sup>46</sup> Angelica Villa, “Beeple NFT Fetches Unprecedented \$69.3 M. at Christie's,” *ARTnews* (March 11, 2021), <https://www.artnews.com/art-news/market/beeple-makes-69-million-1234586424/>.

<sup>47</sup> Gregory Bobillot, “Soaring NFT Sales Redraw the Art Market,” *Financial Times / FT Film* (November 28, 2021), <https://www.ft.com/video/2cfc76ad-5e03-4230-97da-aae12a9681cb>.

<sup>48</sup> Steven Kurutz, “Teens Cash in on the NFT Art Boom,” *The New York Times* (October 4, 2021), <https://www.nytimes.com/2021/08/14/style/teens-nft-art.html?searchResultPosition=6>.

<sup>49</sup> Jacques Lacan, *The Four Fundamental Concepts of Psychoanalysis*, ed. Jacques-Alain Miller, trans. Alan Sheridan, (New York: Norton, 1998), 53–4.

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<sup>50</sup> As one industry service provider explains: “Energy costs are the primary concern for mining farms. Unlike enterprise servers where it is difficult to draw a one-to-one correlation between a server’s energy consumption and its return-on-investment, this metric is easily obtainable for mining servers since they only perform one task. Understanding the influencing parameters on energy consumption and financial return is important to maximizing profit” (Sunbird DCIM Data Center Infrastructural Management. <https://www.sunbirdcim.com/infographic/largest-bitcoin-mining-farms-world>). Kate Crawford, for example, sees extraction at the heart of AI from start to finish, from extraction of minerals to extraction of data and extraction of scrap metal once the processing units degrade or become obsolete. Kate Crawford, *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence* (New Haven: Yale University Press, 2021).

Describing NFTs as a reversal of the readymade revolution, Joselit sees an art that “function[s] as a technology of extraction” (Joselit, “NFTs, or The Readymade Reversed,” 4).

<sup>51</sup> Gemologist-anthropologist Filipe Calvão writes convincingly of the homology and codependency between metal mining and crypto mining. Filipe Calvão, “Crypto-Miners: Digital Labor and the Power of Blockchain Technology,” *Economic Anthropology* 6 (2018): 123–34.

<sup>52</sup> “What is ERC-721? The Ethereum NFT Token Standard,” *Decryp* (May 18, 2022), <https://decrypt.co/resources/erc-721-ethereum-nft-token-standard>.

<sup>53</sup> While the project of making everything accountable on a blockchain might sound harrowing, enthusiasts in the regenerative finance (ReFi) community see this as a potentially revolutionary tool for holding corporations accountable for environmental, health, and civic costs that traditionally do not get tallied by their oft underhanded accountants. More sober observers point out that such accountability in no way requires blockchain technology and its rabid energy use.

<sup>54</sup> In many cases an NFT is created to cultivate and capture desire for something even more intangible than a digital image. In early 2022, TikTok began minting and auctioning off NFTs that offer fans and collectors an opportunity to “own a moment that broke the Internet” (<https://tiktok.immutable.com/>). The first of these to go on the block was an NFT commemorating Gary Vaynerchuk’s popular video asking his platform interlocutors to name “a video that lives in your head rent free.” The ensuing NFT sold for 25 ETH, equivalent to about \$4,000 around the time of purchase (<https://tiktok.immutable.com/auction/jess/1957>). Note the transparency for which NFTs and distributed ledgers are often hailed: one sees the entire history of transaction right there on the Vaynerchuk NFT’s summary page.

<sup>55</sup> Crucially, for Wiener, information, as a physical entity, must not be confused with matter or energy, though it depends on these for its embodiment and transmission.

<sup>56</sup> Gregory Bateson, *Steps to an Ecology of Mind* (Chicago: University of Chicago Press, 2000), 315. The first difference involves a translation of real electricity into digital symbols; the second difference, should it occur, entails the symbolic changing of the imaginary structures of a subject, that is, in the ego’s organization and/or relationship with itself.

<sup>57</sup> For a collectibles series buyer, for example, as described above, what is most important is *not* what distinguishes a given image but the samenesses that make it part of the set and the social power that accrues to those in the “club” of owners.

<sup>58</sup> [https://opensea.io/collection/89-seconds-atomized-v5?search\[sortAscending\]=true&search\[sortBy\]=UNIT\\_PRICE](https://opensea.io/collection/89-seconds-atomized-v5?search[sortAscending]=true&search[sortBy]=UNIT_PRICE).

<sup>59</sup> For the enthusiasts’ take, see, e.g., Williams’ *Blockchain: The Next Everything* (cited above); Michael J. Casey and Paul Vigna, *The Truth Machine: The Blockchain and the Future of Everything* (New York: St. Martin’s Press, 2018); Don Tapscott and Alex Tapscott, *Blockchain Revolution: How the Technology Behind Bitcoin and Other Cryptocurrencies Is Changing the World* (New York: Portfolio/Penguin, 2018).

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<sup>60</sup> There are of course exceptions—small but dedicated communities of socialist and anarchist developers and organizers in the blockchain world with interests ranging from protecting anonymity to promoting regenerative finance to funding activist cooperatives of various stripes—but they have done little to mitigate the unfettered energy consumption implied by the Web3 hype-machine.

<sup>61</sup> Software engineer Molly White's documenting of the Celsius fallout on Twitter makes one particularly heartbreaking case in point.  
<https://twitter.com/molly0xfff/status/1553502926500405250?s=12&t=jpEuTjPMLE7ra-pklnJgHQ>. Along these lines, Juárez observes NFTs is of a piece with other fintech platforms, "designed to supposedly include [those at] the bottom of the pyramid while in reality they just profit from them" (n.p.).

## REFERENCES

- Ammous, Saifedean. *The Bitcoin Standard: The Decentralized Alternative to Central Banking*. New York: Wiley, 2018.
- Akten, Memo. "The Unreasonable Ecological Cost of #CryptoArt (Part 1)." *Medium* (December 2021). <https://memoakten.medium.com/the-unreasonable-ecological-cost-of-cryptoart-2221d3eb2053>.
- Bataille, George. *The Accursed Share*, vol. I, *Consumption*. Trans. Robert Hurley. New York: Zone Books, 1991.
- \_\_\_\_\_. *The Accursed Share*, vols. II and III, *The History of Eroticism and Sovereignty*. Trans. Robert Hurley. New York: Zone Books, 1993.
- Bateson, Gregory. *Steps to an Ecology of Mind*. Chicago: University of Chicago Press, 2000.
- Benjamin, Walter. "The Work of Art in the Age of Mechanical Reproduction." *Illuminations*. Ed. Hannah Arendt. Trans. Harry Zohn. New York: Schocken Books, 1986.
- Bobillot, Gregory. "Soaring NFT Sales Redraw the Art Market." *Financial Times / FT Film* (November 28, 2021). <https://www.ft.com/video/2cfc76ad-5e03-4230-97da-aae12a9681cb>.
- Calvão, Filipe. "Crypto-Miners: Digital Labor and the Power of Blockchain Technology." *Economic Anthropology* 6 (2018): 123–34.
- Casey, Michael J. and Paul Vigna. *The Truth Machine: The Blockchain and the Future of Everything*. New York: St. Martin's Press, 2018.
- Cochoy, Franck. "A Brief Theory of the 'Captation' of Publics: Understanding the Market with Little Red Riding Hood." *Theory, Culture & Society* 24 (2007): 203–23.
- Crawford, Kate. *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence*. New Haven: Yale University Press, 2021.
- De Boever, Arne. "The End of Art (Once Again)." *b2o* (March 29, 2021). <https://www.boundary2.org/2021/03/arne-de-boever-the-end-of-art-once-again>.
- Di Filippi, Primavera and Aaron Wright. *Blockchain and the Law: The Rule of Code*. Cambridge: Harvard University Press, 2018.
- Droitcour, Brian. "How to Look at NFTs." *Art in America* (March 4, 2021).
- Frye, Brian L. "Clout and Control." *Outland* (December 2021).
- Joselit, David. *After Art*. Princeton: Princeton University Press, 2013.
- \_\_\_\_\_. "NFTs, or The Readymade Reversed." *October* 175 (2021): 3–4.

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- Juárez, Geraldine. "Ghostchain. (Or Taking Things for What They Are)." *Paletten* 325 (May 2021).
- Kurutz, Steven. "Teens Cash in on the NFT Art Boom." *The New York Times* (October 4, 2021). <https://www.nytimes.com/2021/08/14/style/teens-nft-art.html?searchResultPosition=6>.
- Lacan, Jacques. *Formations of the Unconscious*. Ed. Jacques-Alain Miller. Trans. Russell Grigg. New York: Wiley, 2020.
- \_\_\_\_\_. *The Four Fundamental Concepts of Psychoanalysis*. Ed. Jacques-Alain Miller. Trans. Alan Sheridan. New York: Norton, 1998.
- Lee, Isabelle. "Sales of Bored Ape Yacht Club NFTs Jump Past \$1 Billion amid Heightened Interest from Celebrity Collectors." *Business Insider* (January 4, 2022). <https://markets.businessinsider.com/news/currencies/bored-ape-yacht-club-nft-sales-1-billion-opensea-bayc-2022-1>.
- MacDonald-Korth, Duncan and Vili Lehdonvirta, Eric T. Meyer, and The Alan Turing Institute. "Art Market 2.0: Blockchain and Financialisation in Visual Arts." London: The Alan Turing Institute, 2018.
- Piketty, Thomas. *Capital and Ideology*. Trans. Arthur Goldhammer. Cambridge: Harvard University Press, 2020.
- Steyerl, Hito. *Duty Free Art: Art in the Age of Planetary Civil War*. London: Verso Books, 2017.
- Storey, Andy. "How Much Energy Does It Take to Make an NFT?" *Poster Grind* (January 2022). <https://postergrind.com/how-much-energy-does-it-take-to-make-an-nft/>.
- Tapscott, Don and Alex Tapscott. *Blockchain Revolution: How the Technology Behind Bitcoin and Other Cryptocurrencies Is Changing the World*. New York: Portfolio/Penguin, 2018.
- Villa, Angelica. "Beeple NFT Fetches Unprecedented \$69.3 M. at Christie's." *ARTnews* (March 11, 2021). <https://www.artnews.com/art-news/market/beeple-makes-69-million-1234586424/>.
- Wark, McKenzie. "My Collectible Ass." *e-flux* 85 (October 2017).
- Williams, Stephen P. *Blockchain: The Next Everything*. New York: Simon and Schuster, 2019.

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