

Cryptoart: Form and Function of Tokenized Blockchain Content

Preface

Originally written as a response to a call for papers at conference specializing in this industry, this document composed in a way to avoid championing any one project and assumes the reader is not a novice. The intention of this document is to facilitate discussion and eventually trigger unified education after clarification. It is apparent that within the cryptoart industry many of the perceived constants are questionable as to their justification while other variables that people want to rehash, like the word *cryptoart* itself, are already established more or less as constants. What started as a contextual text-wall has developed into a tokenized treatise to the nature of being cryptoart in substance and form. After publication, this body will be hosted as a live document for the wider community to edit.

In attempting to nail down a moving target, this discussion addresses emergent ideas from across the globe. Just as any centralized authority should be avoided, or not be relied upon, so this document is written in a way to avoid citations through academic practices that embolden expert culture. The author wishes to avoid the trappings which distract from the meaning behind the words by attempting an etymological approach to semantic refinement. Because of the intention to broadcast this social contract, in full, considerable intellectual compression has been employed. As a philosophical document, this is a both not a light read and laden with industry jargon. Similar to a short story, every word has meaning and every detail is needed in order for the reader to see behind the face value of the words.

This unsubstantiated writing is intended to establish perspective, which can be argued for or against. Readers are encouraged to research the term to ascertain their own understanding and then contribute to the practice of educating others. The author hopes to interweave pieces to form a narrative that does not leave the reader puzzled.

What widens the digital divide of blockchain technology and adoption by potential users the most is the oversaturation of inaccurate metaphors contributing to confusion instead of facilitating understanding. Terms like blockchain are not insightful as the usage is contrary to the root meanings and conveys incomplete imagery. Mining Bitcoin is similar to coining a new phrase or term, in that new words introduced to the lexicon are not independently spontaneous, because reinforcement is a core necessity. Much of the greater peer to peer industry is an attempt to eloquently balance the ideals of decentralization with the opposite, habitual, centralized mentality. As there are many steps to streamlining the digital achievements into societal potential, there is an overemphasis to bypass the middleman in all aspects of the supply chain. The cryptoart movement is still struggling to identify itself by establishing best practices and procedures, while much of the innovation has yet to be unlocked. Contrary to the normal meaning of the prefix, in this case, *crypto* indicates being related to a project using blockchain (or similar) technology as opposed to simply meaning *hidden* or *masked*. There are some cryptic details though, that this work aims to tease out. Although fine art paper wallets have been sold under the cryptoart name, it has taken on greater, deeper meaning and represents a specific social movement in dire need of lexical refinement in order to resist semantic drift and facilitate cohesion.

The Concept of Tokenization

In linguistics, as well as computing, the concept of tokenization revolves around the systematic usage of sets substituted for things less tangible, or more substantial, depending on the circumstance. In the setting of an arcade, a user changes money for tokens which can be used in

any game within the building. One does not expect to be rewarded by removing game tokens from one establishment and attempting redemption in machines at another franchise. At this point, the token represents the potential playability in a variable that changes depending on the popularity of the machine in which it is redeemed.

Tokenization is not limited to financial and linguistic definitions. In order to ascertain the fuller definition, further functionality needs examination. It is a complicated matter as the societal implications of using a physical artifact as something that represents an abstract phenomenon are extensive, from associative remote viewing techniques to hobo nickels. The most archaic interpretation of the word would be *teach*, but today the concept has far-reaching applications. The military challenge coin system exemplifies societal uses, which supersede the material component's trade value as tokens of appreciation are functional. The common concept being that learning is done best when participating.

The culture of drinking tokens embodies the ability to proselytize a service at an establishment where both are looked on favorably, to such an extent that the reception of these tokens conduces the transfer of not only libations and shelter. The implied message of acceptance and hospitality accompany every exchange of the token commonly referred to as a wooden nickel. Conversely, countermarks were used as a sign to systematically deface a message minted. Similar to state currency, these service tokens conventionally contained artwork whose content was limited to the medium. In an age of digital exonumia, the multimedia canvas can be of any size, shape or length of time and the service provided can be a *smart contract* or systematic functionality

beyond simple redemption. This virtual transcendence offers a functional upgrade in the utilization of tokens as being goods-as-a-service and cannot be explicitly limited to an ontological declaration of being digital goods alone.

Confusingly, what people are seeing across platforms and many countries, is an emergent idea that levels of reality are streamlining digital production and commerciality previously only attainable with the physical durability of trade goods. Exclusively limiting the functionality to virtual certification of physical works with the use of a blockchain is an undercooked approach. Fittingly, this kind of digital art is commonly considered *rare*. To gain an in-depth understanding of the phenomenon at hand, a creator needs to dig deeper than the perceptions of virtual trading cards, to the rooted meaning based on the usage of the concept in other areas of internet history. To focus on only illustrative visual art as being compatible with the tokenization system limits the observer considerably into legacy base systems for digesting viscosity potential. That is to say, instead of going with the flow of innovation, continually attempting to retrofit development will lead to sticky situations and potential users will find it difficult to break the surface.

History of Tokenization / Tokenization - From Early Internet Cultures to Cryptoart

While peer to peer technologies evolved, programs developed and gained attention and adoption. Social and legal concerns arose from the consequences of their popularity. Out of these controversies, it was determined that these hotly contested, file-trading, program networks were legitimized by the usage of self-created recordings as a form of publishing. These platforms provided an alternative to the previously established record label monolith, top-down

organization, as underground music manifested a truly successful distributed network not reliant on a central authority. The physical communities remain after the technology departed.

Connections, made in the entertainment industry, continue as word of mouth is such a utility that it is relied upon when networking for new job opportunities.

In this era many individuals took control by forming their own publishing organizations. Based on a passion for sharing and publishing art, netlabels often doubled as venues, recording studios, booking agencies or professional sound equipment aficionados. It's important to draw from the concept of mid-level agency, like the net label's function, in order to have a deeper understanding in blockchain tokenization of digital cultural artifacts. Even the precursor to Bitcoin was based on the social importance of sharing blocks of data in an environment saturated with leeches. Early internet users, through distributed social means, facilitated the removal of the barriers to entry previously erected by the major record labels. However, this momentum is being lost by a majority of content providers that are becoming overly reliant on centralized technoligarchy. Therefore, there is an impetus to facilitate ease of use for adapting tokenized technologies in lieu of relying on ad revenue to monetize sanitized content. Deplatforming as a means of social control is an evil of centralization that can be eliminated as new structures gain traction.

The MP3 revolution was a game-changer in the music industry, in that collecting became focused exclusively on the data and not the collectability. Due to the limited means of self-production and marketing, collectability was reintroduced by independent musicians who

followed the new paradigm of consumers needing more than just the tunes. Social movements such as open-source culture and culture jamming reaffirmed this subculture of users who understood that the new social currency in the digital era is a self-produced artifact.

Ironically, the most grievous issue facing independent musicians over the last two decades has been the loss of tangible aspects of their art when going digital. Although the digital revolution enabled anyone to share anything almost instantly, it did not adequately facilitate the economic exchange necessary for sociological reinforcements of good works. In place of recording sales, artists further relied on the revenue derived from merchandise and ticket sales. By establishing digital accountability inherent in the media itself content creators are enabled to take back control and earn capital. Because of blockchain technology, art has been introduced limited tangibility into virtual entertainment on a global level.

The Boundaries of Cryptoart

For multimedia, it is useful and succinct to appropriate the explanation of independent music agency as a peer-to-peer success as opposed to online/offline galleries. There is something to say about the experiential quality of the art of the recording or performance, in which the observer is bound to a timeline. Unlike visual art, where the analysis varies greatly from person to person, shared experiences add to the collective narrative of the art. The duration is always sequential in occupying a space in time, being ingested during conception or via recording. Similarly, it is almost as if the tokenization of artwork has enabled a unified experience to the users at a base, protocol level by chronicling the series of events. At a minimum, to be cryptoart, the nature of

the work needs to be bound to some kind of cryptographic or blockchain activity, as opposed to just having crypto as a subject nature or theme. The more reliant the art is on crypto technology, or the more immersed in the crypto experience the art places the user, the greater the qualia of being cryptoart is represented. Services that exclusively offer legacy functionality, such as paying for downloads or streams with cryptocurrencies, fall short of facilitating cryptoart. While allowing users to publish multimedia that may even be exclusive content for that platform, if the works are not tokenized and the system does not replicate the social agency of substitution, then it cannot be considered wholly cryptoart.

This new realm of quantifiably limited cultural artifacts is still rife with misunderstanding. The key factor in the adoption of a wider user base is effective onboarding. What unifies multiple different approaches, but still makes the same genre of cryptoart, is that the user experience typifies cryptocoin system mechanics. A quality indicator of the level of effectiveness is to quantify industry methodologies and values as a reflection of sociological effects modelled within each individual project. One of the examples is that trading in the open market can be simulated on a decentralized ordering system provided on the protocol, where any token can be exchanged for any other token. This would contrast popular contract use, which centralizes interaction within segregated echo chamber tokens despite utilizing the same blockchain. The redemption of the token for goods or services is outside of the protocol itself. The sociological momentum behind the project of each token is what gives it value and lends validity to the system. If any one part, the blockchain, contract or active users are removed so too is the value.

Developer Culture in Cryptoart

Entrapments of entertainment and expert culture embolden idealists who are limited to a very specific methodology of objectifying reality. Yet in some *cult of the personality*, residual phenomenon, the actors in the space who are developers on some infallible pedestal, are also the source of much of the dogma pertaining to practices unrelated to code. In some systems, the game creator imposes or forces restraints on choices of variables while also offering custom operations not available on the protocol itself. Unethically exploiting the needs of users for personal gain without contributing upstream, in an open system, typifies the most predominant ethical pitfall in these kinds of organizations. Systematic, mid-level agency is presently frowned upon by the facilitators who want a monopoly on this behavior. Middlemen situate themselves, their own game currency, or their private software, in order to be the arbitrator between the public usage and private knowledge access for personal profit, all the while denouncing others doing the same. Because of the active bad actors in any successful system, there will always be a need for a concerted effort to facilitate accountable mentorship in the supply chain. Developer culture has been predominant across most kinds of altcoin generation since the first altcoin. From misused premines, blockchain forking, script kiddie contracts and blatant exit scams, to more legitimate practices like mining and trading, developers have a place to flourish in code and technology. However, cryptoart is more about enabling outliers who can collectively draw from multiple disciplines to Venn diagram a new perceptual gateway into the next era of the unified potential of both physical and virtual realities.

Ontology of Tokens

In the lexical usage, the specificity of *token* is represented by the characteristics: identifier, keyword, separator, operator, literal, and comment. All of these attributes should also present in a blockchain tokenized system to make it complete. While keywords are reserved by the protocol or the system maker (like game currency), identifiers allow end-users to model ideas within the system. To solidify the unique existence of each work, literal restraints are left as variables by the system itself but often culled by curators. If the data variable of the comment field is editable, it allows the owner to manually build a narrative over time, when the changes are chronicled on the blockchain. Simultaneously the record of sales on an open decentralized market can be aggregated towards less biased narratives. The very identity of each work is determined by a human registering an available name or a string being assigned by the system. If the namespace exists separately as the issuance, then the name itself can be considered the singular quantity of existence. In this circumstance, if the issuance is zero, the name of the space itself acts as a Non-Fungible Token (NFT). Many registrants try to conflate rarity by systematically creating multiple one-of-a-kinds, or double-digit issuances insufficient for a global market. Yet, there is something to be said about the buzz surrounding the perceived success in the news media. Projects whose selling point is that each item in the collection is unique, are gaining notoriety to the extent where blockchain industry enthusiasts learning about the intersection of creative content gleefully parrot “NFT?” Although the term seems to roll off the tongue, control over simple possession is not a robust enough functionality to be a sufficient label for this greater niche. This overused acronym means that each entity is inherently different from another as they cannot be interchanged.

Naming and enumerating existence does not give satisfactory control over an asset for a content creator, when so much more is possible. Interpretation of the nature of the existence of each digital entity should be determined by the context in which it is made, supported, developed and established through societal conduct and constructs, such as the artwork. Conversely, existing on the computer network is a unique identifier that takes the place of the concept behind the work. The forged identity of the work is meant to encapsulate the presentation of information required to convey the program that occupies the mind, similar to a tulpa. The intellectual identity of the artifacts are the essences that have been readily shared, while their substituted ownership is quantified by the computer system backing it. This invisible yet virtually tangible thought-form is manifested in a primary work, yet has the potential to be upgraded or adapted to other mediums while still remaining true to its original identity. This is the fuller capacity of this new medium, in which cryptoartists are faced with the opportunity of tuning the balance between mutability and permanence and the burden of orchestrating concurrent virtual and native reality. Cryptographically created tokens cannot exist in tangible reality, yet are the most basic form of essence forged in this new era. On an idiographic level, the crux of the artistry is the coining of lexemes. The nature of its existence is relevant to the computer system primarily and secondarily named or represented as art, whichever blockchain the IOU exists on.

Emojis are a necessity, when communicating on the internet, due to Poe's Law. Just as the iconography is universal so too is the data portrayal via Unicode or Punycode. Yet because of perceived sociological pressures, they are suffering a semantic drift of their own as pistols in

most operating systems become squirt guns in the guise of deplatforming hate speech in an effort to combat Moore's Law.

Token Narratives

Contrary to the limits of physical reality, virtual enumeration fluctuates due to simple human error as opposed to the many other possible ravages of time. Similar to corrosion or damage to collectibles, negligence can be catastrophic digitally. For record collectors, every scratch adds character, but the wear and tear should be similar to coloring data with a personal narrative. Collectible vinyl records make up a de-fungible system, where exchangeability is lessened systematically with use. Conversely, the technological or social narrative of stewardship potentially adds to the value. By observation alone, a five-pound note can become worth more than face value due to circumstances such as the serial number sequence having meaning unto itself, such as a historically significant date in time. Although works of cryptoart may have more than one issued, the pathway each asset takes through time is unique.

This independent narrative of a solo asset can be harmed if it is combined with another of the same in one wallet. In such a time there are not two or more works, but a work with the value of more than one. The unique luster washes off such a diamond when it is held with others. While cross-chain technology will hopefully enable a cryptosystem of multimedia, which can be traded between protocols seamlessly, this technology does not exist currently in a decentralized state. The whole of cryptoart is on the forefront of creativity and technology in a dynamic first come, first serve industry of innovation. In the usage of substitution, the idea in some artists' minds is

backwards to the convergent nature of reality, bridging the digital and the physical. The art represents the token, not the other way around.

Of significance to the big picture of cryptoart, is that the audit trail cannot be discontinuous or traceless. If one of the directives is to facilitate authenticity through accountability, then utilization of hidden transactions are counterproductive. Furthermore, if a project is closed-source and there is a black box in the center, then that should not be considered decentralized cryptoart, but simply blockchain futility endorsing theft and forgeries. Ultimately, anything actually decentralized does not have a kill switch. Recovery from exploits or the ability to upgrade are included in justifications to retain executive control. Parasitism, as found in nature, is a nonstop evolutionary arms race. Therefore, self-amending crypto ledgers or DAGs are so enticing yet remain questionable technology. Likewise, Delegated Proof-of-Stake seems to pave the way to allow the majority to erase content and likewise forfeit the illusion of immutability. All of which are techniques for pausing, resetting or reversing transactions and are therefore not acceptable as they can be misused at any time empowering institutional deplatforming.

The Necessity of Intermediaries

Out of necessity, intermediaries have developed. Since the Golden Age of the internet, their purpose was to collectively unify artists in a marketable fashion. As the genres of music varied, net labels tended to focus on specific trends. Virtual communities, gathered for cultural enrichment, are run on passions in preservation, publication, reproduction and distribution

instead of financial return. When any instrument is driven at a harmonic of the fundamental frequency the system will carry the most resonance, and sound the loudest. At the right frequency, a synergistic effect can power standing waves to new heights. In the company of others, greatness is achieved through cooperation, yet each participant can be competitive within the system itself. Any altruistic artist would like to see his or her labelmate succeed and understands the effectiveness in recommending another artist using social media. Prospective online content consumers are more receptive to authentic recommendations of others instead of self-referential marketing. This kind of substitution lends well to word-of-mouth marketing efforts. To the creator, any new content consumer could be a prospective purchaser of tickets, consumer of merchandise or sponsor of regular stipends. These cultural iota are IOUs for services to be rendered and collectible format of previous work or brand identity. These gatekeepers, similar to galleries, are often the organizations that bear the burden of authenticating work against the body of knowledge already existing before publication as curation. This analysis can only be effectively completed through in-depth investigation against lifelong exposure as insight as opposed to simply searching on the Clearnet with one engine to get skewed information in place of knowledge.

Unfortunately, there has been no decentralized middleman to facilitate reputation building outside of binary sponsorship. One of the other ways balance has been positioned, is to create a centralized governing body which reviews works. Expressions being tokenized can have many interpretations for validity based on integrity of systematic variable settings and control over

themes. Artwork deemed worthy of being in such a collection earns the primary benefit of collective agency.

A Call for More Education

Despite intentions of best practices, the narrative of private cryptoart galleries is built up so much that it outweighs innovation through convention. Yet the core issue still remains, that of effective teaching in order to facilitate new usage. No matter the substrate technology used to grow an idea, the difficulty with adoption can only be overcome through education. The most qualified choice is often overlooked for something that is more convenient. Acquiring trade knowledge from a qualified mentor takes time and finesse unlike the shallow understanding of quick references and short tutorials.

It is natural for new participants to get enamored with the blockchain or project they are first introduced to and this bias is hard to break, even with confident evidence. There still seems to be some universal concepts which affect all users, and can be understood through in-depth investigation and analysis of trends that supersede individual blockchains. Despite the middleman being bypassed technologically, sociologically, the functionality is still beneficial. It is reasonable to believe that not only one intermediary is required to facilitate the most effective outcome. Simply producing etched marks on vinyl is not the same as cutting a record. Tomorrow's platinum records will be entries in a tokenized system embodying the responsible balance of decentralized permanence and centralized mutability. This new media is a virtualized representation of multifaceted social artifacts through ownership, access, and shared

understanding. Greatness can be achieved by embodying the success of fine art, institutional mentorship combined with the nuances of underground marketing in the utilization of open-source and decentralized blockchain technology. This coalescence of art and technology has the potential to permeate all walks of digital life as a new constant in the virtual world.

Distribution over Decentralization

In this modern era of hyper-accelerated culture, it is easy to lose sight of possibilities by trying to navigate what is already being built. Professional excellence is lost on those who attempt to game the system in order to achieve more than their peers by underhanded methodologies. Some use cases persevere as being successful before their time despite the seemingly impossible task of harnessing this evolving technology. As a result, many imitate the bandwagon by modifying the wheels to be more Sisyphean. When the new age of online digital piracy came into full force, the primary justification of file trading usage was defended by self-publication utilization. Because the Internet allowed person-to-person direct, interaction facilitated by one bridge as a single website or program, many users have grown accustomed to relying on their brand equity to be continually supported by that platform, instead of a multitude of service areas. Due to what has recently proven to be manipulative or exploitive operations based on content, and without the user's interest at heart, many creators are still in search of substantial digital irrevocability. Nonetheless, the drive for creative people to push the boundaries in any system is continual. They do so while also reflecting their own identity back into culture through multimedia and digital, artistic expressions.

The effectiveness of networking social capital on top of a peer-to-peer system is dictated by the nature of the organizing structure of the supporting technology. Therefore, the ideal tokenized cryptoart systems will be not decentralized but distributed. Manually playing connect the dots on a decentralized system exposes the throughput to the liability of being severed due to the inherent nature of connectivity. This multicentral organization should more adequately exist on the sociological layer, instead of the technological layer, of an effective system when marketing.

Earning a Reputation

What cannot be bought or sold, online or off, is social capital in the form of trust. Not just producers of fine art, but each content creator's intent lies behind individual acts or works. Reputations are the building blocks of a society that learns from history. The successful are the ones who impact the timeline of humanity in order to achieve greatness. Humans have the capacity to exist outside of the relational space and sequential time restraints, which serve as the basis for technology, yet will forevermore be bound to this paradox.

Bio

Theodore Duncan Krostue is an artist from Kalamazoo, Michigan who has recently travelled to NYC, Tokyo, San Francisco, Boston and Switzerland to meet with other participants in the cryptoart movement. After selling a tokenized print of an illustrated parody on stage at the actual first auction of visual art made for blockchain use at RareAF, his self-realization of being a qualified outlier was facilitated by the affordance of participating in multiple communities. Yet this experience left him yearning to integrate greater decentralized practices with this new kind of participatory tokenized art publication.

What started as a direct result of being empowered by publishing in someone else's system, this user's passion fueled action in half a dozen collections as a participant. Eventually the deeper understanding facilitated curator role in a relaunch of someone else's collection and leader of two of his own. His projects are not as exclusive in theme but aims to reflect best practices in greater ideologies of decentralization and consensus. Growing from the understanding for the root word of token being *to teach*, this telegram user assists artists all over the globe to participate in other various cryptoart collections using CounterParty. Most recently, this superuser has been elected as Community Director of the CounterParty Foundation.

Self-publication and local booking/performing of events consumed his non-business life for twenty years. Working at an advertising company, a record shop, a print shop, an ISP, a technology manufacturer, as an educator, on cell phone towers and being a stay-at-home father has granted this outsider a unique interwoven mind mapped perspective. As a commentator of social informatics related to spiritual issues of identity in regards to modes of creative expression, this author identifies as a blockchain theologian. Throughout his six-plus years of blockchain and two decades of p2p experience, his ultimate inspiration is Pre-Columbian use of cultural artifacts representing bits of social contracts as a pathway for greater understanding of the essence of modern-day virtual wampum.

Postlude

Special thanks to the feedback from everyone who helped in the draft process, especially:

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At the time of this writing and for the year and a half prior, the author has kept up over a dozen generic Top Level Domains with *cryptoart* as the sole registration. During the drafting process, the author has determined the need for cohesive group discussion revolving around this topic and asks for interested parties to join CryptoartGroup.

The reader is encouraged to fork this primary or master copy to any collaborative document platform for further ideological exploration. This document is BY-NC-SA and citation of it as a source is required for all remixes, adaptations, quotations and freely available reprintings.