Selling a Ferrari like Sliced Meat: Confident Stance-Taking, Blockchain Doxa, and the Splitting Power of Asset Tokenization

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ABSTRACT

Asset tokenization, a financial practice that generates tokens based on distributed ledger technologies such as blockchain, is a representational practice in which token issuers establish artificially devised sign relationships between tokens and assets, despite some issues and complexities of blockchain. Human confidence in this practice is critical for its successful implementation. This article suggests that human confidence in blockchain is supported and circulated by the doxa of blockchain, which the article frames as a linguistic phenomenon where people talk more about how to use a given object than about the object itself. By paying attention to the artificially devised sign relations between tokens and assets and confident stance-taking toward blockchain by users, the article argues that a linguistic approach is necessary to understand how human confidence makes asset tokenization happen.

I magine you could buy a Ferrari like beef. As if buying any amount of meat from a butcher, you can buy any amount of a Ferrari; however, unlike buying beef and later eating it, you cannot drive or directly appreciate the Ferrari. In 2020, CurioInvest, an online blockchain exchange platform specializing in collectible cars, announced its project to tokenize the Ferrari F12tdf with a $1,100,000 hard

cap into 1,100,000 tokens.[1] Those tokens represent the value of a real Ferrari stored in a vault in Stuttgart, Germany. The car is conceptually divided into 1,100,000 pieces, or tokens, and the price of these tokens corresponds with the market price of the underlying asset. The company advertises tokenized cars, including the Ferrari F12tdf, as a new asset class that appeals to a diverse range of investors. Jim Needham, head of digital strategy at MERJ Exchange Ltd that partnered with CurioInvest, told Bloomberg that with asset tokenization of exotic cars, "you can have a guy in Uganda who's able to invest in a rare car that's kept in a vault in Stuttgart, tokenized by a company in Liechtenstein and it all fits within this recognized regulatory environment."[2] In the real world, it is impossible to sell and buy only 5 percent, 25 percent, or 50 percent of a Ferrari. Generally, people cannot purchase a Ferrari like sliced meat in the supermarket, as the seller is not sure where to cut it off. Nonetheless, with blockchain, a Ferrari can be divided into 1,100,000 pieces and sold to people who could not usually afford to own one. Needham further claims that this practice is "a perfect illustration of . . . as a tool, what blockchain technology and distributed ledger technology can do to democratize the capital markets."

This emerging financial practice is called *asset tokenization*, and this article focuses on blockchain-based asset tokenization. For real physical assets such as precious paintings, exotic cars, and real estate properties, tokenization is the process of digitally representing existing physical assets on a distributed ledger such as blockchain.[3] Tokens representing underlying assets carry the rights of the assets and function as exchange value whereas the real assets, from which tokens are issued, continue to exist in the real (off-chain) world and need to be stored in secure places. For companies like CurioInvest and MERJ, asset tokenization is a way to divide physical assets to make fractional ownership possible. The purpose of fractional ownership is to liquidize asset markets by encouraging investment from a wide range of investors with less funding, some of whom may not normally have been able to own luxury assets, such as a Ferrari. Although theoretically speaking,

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1. See https://curioinvest.com/car/4.

2. See https://www.bloomberg.com/news/articles/2020-01-31/want-to-own-a-ferrari-now-you-can-through-a-new-digital-token.

3. Technically, distributed ledger technologies (DLTs) and blockchain are different: "DLT refers to a novel and fast-evolving approach to recording and sharing data across multiple data stores (or ledgers). This technology allows for transactions and data to be recorded, shared, and synchronized across a distributed network of different network participants. A 'blockchain' is a particular type of data structure used in some distributed ledgers which stores and transmits data in packages called 'blocks' that are connected to each other in a digital 'chain.' Blockchains employ cryptographic and algorithmic methods to record and synchronize data across a network in an immutable manner" (World Bank 2017, 7). All blockchains are DLTs, but not all DLTs are blockchains. Blockchain is one way to implement DLTs and "sits below a distributed ledger and acts as a way to verify transactions submitted by producing a new block to the chain" (Rutland 2017, 2).

anyone can be "a guy in Uganda," it remains unclear what degree of financial accessibility this practice makes a reality.

Asset tokenization is not simply made possible when tokens are developed on blockchain, nor is it technologically done only by blockchain. Needham's statement above indicates that blockchain realizes asset tokenization and consequently financial democratization as well. However, more importantly, the article argues that asset tokenization is made possible by metalinguistic practices involving the artificial formulation of signifier-signified relations between tokens and assets and confident stance-taking toward blockchain technology. Price relations between tokens and assets are artificially devised as tokens need to represent the same exchange value as assets, in spite of having no original value, by dividing the original asset by a number of tokens to be issued. Token issuers create such an artificial price relationship between tokens and assets by taking specific technofinancial and linguistic steps. When token issuers articulate possibilities and benefits of asset tokenization, their discourses signify that they are confident about blockchain, regardless of issues and complexities related to the technology. Moreover, the confidence of blockchain users leads to promotional discourses about possibilities and benefits of the future asset market, which resonates especially with middle-class investors as addressees. However, relevant problems of blockchain technology range from its technological obscurity to lack of government and industry regulations to cyberfraud. Even though a proper way of blockchain governance and operation is still undecided, why do some users still become confident about doing something with the technology? In this sense, the article posits that their confident stance toward blockchain is supported by the doxa (Bourdieu 1977b), or commonsense beliefs, surrounding blockchain. This blockchain doxa emerges when the social status of blockchain shifts from the realm of the contentious to the realm of the unquestioned as more and more apply the technology in their own industrial contexts and talk less about blockchain itself.

This article explores linguistic aspects of asset tokenization by paying attention to signifier-signified relations between tokens and assets and token issuers' confident stance-taking toward blockchain. First, the article explains the process of asset tokenization where token issuers formulate signifier-signified relations between tokens and assets. Second, to explain the confident stance-taking of token issuers toward blockchain, the article describes the social existence of blockchain as a dominant and unchallenged mode of digital profit-making, governance, and management. Third, the article offers cases of real estate and artwork tokenization in which token issuers take a confident stance toward blockchain and create their promotional discourses that encourage investors to own tokens. To conduct this

work, I analyzed several online news articles, YouTube videos, podcasts, token issuer websites, and blockchain service provider websites. In conclusion, the article develops its view of how this technolinguistic financial practice will disrupt traditional asset markets in the future if it becomes successful.

Asset Tokenization

Asset tokenization is a financial practice that has become popular and more prevalent with the advent of cryptocurrency, although tokenization itself has existed since the 1970s as a data security apparatus in finance (Geroni 2021). "The Second Bitcoin Whitepaper," published in 2012 by J. R. Willett, the inventor of the initial coin offering, deals with the foundational concept of asset tokenization.[4] Although Willett's paper focuses on the launch of a new currency layer called Mastercoin in the Bitcoin network, the idea of launching something that promotes transparency, decentralization, and effective fundraising in the existing blockchain platform became the precursor for asset tokenization. Since 2012, the blockchain economy has seen various tokenized real-world assets, from automobiles to artwork to natural resources (EY 2020; Heines et al. 2021). Leemon Baird, the inventor of Hashgraph, remarked: "The world will be tokenized. It is clear that this will happen, and it is already starting to happen now" (Baird 2022). Theoretically, "everything from art, real estate, [to] even oceans or stars may be tokenized" (Heines et al. 2021, 2).

According to Sazandrishvili (2020), there are four stages before an asset is tokenized: asset evaluation, tokenomics, smart contract creation, and audit. First, potential token issuers decide which asset to tokenize, after which third-party services, such as auditing companies, evaluate the asset that will be tokenized. Next, token issuers must design their tokenomics, which consists of "how many tokens will be issued, whether and how new tokens will be added (i.e., rate of inflation), what happens to lost tokens, what happens to unsold tokens, etc." (Sazandrishvili 2020, 71). This stage is particularly important, as token issuers must design the small economy of the tokenized asset.

Next, for actual tokens to be sold, smart contracts need to be developed on a specific blockchain network. A smart contract is a computer code that "automatically executes all or parts of the agreement and is stored on a blockchain-based platform" (Levi and Lipton 2018). Smart contracts function on "if-then" logic. If *A* happens, smart contracts execute *B*. Smart contracts do not require human intervention, as a network of computer nodes execute a certain action automatically when predetermined conditions are met. Finally, a smart contract is audited

4. See https://cryptochainuni.com/wp-content/uploads/Mastercoin-2nd-Bitcoin-Whitepaper.pdf.

before its implementation to ensure that there are no coding errors. This final step is crucial, as once a smart contact is added to blockchain, it generally cannot be altered. Overall, Joshi and Choudhury (2022, 4) explain that "in a blockchain network, smart contracts are responsible for the execution of required business logic or operations required for the processing of any application, the immutability of created data, transparency, and auditability of completed processes or transactions."

These steps done by token issuers mean that asset tokenization is an act of economic representation that makes tokens, which are commodities of token issuers, have the same exchange value as if they are equivalent to each other in the blockchain economy. The principal purpose of tokens is to represent an underlying asset. At a semiotic level, this mode of representation is entirely symbolic; there is no resemblance between the token and the asset, and the token as a sign has no intrinsic value (Bourdieu 1977). Thus, the link must be artificially devised between signifier and signified (Keane 2008). In this sense, asset tokenization requires a particular "semiotic ideology"; that is, "people's underlying assumptions about what signs are, what functions signs do or do not serve, and what consequences they might or might not produce" (65). It is not blockchain that makes tokens equivalent to assets, but the representational capacity of tokens is rather a semiotic ideology that is claimed and shared by human actors in the blockchain economy.

Token issuers claim that there are benefits of making tokenized commodities in the blockchain network: improving transparency, enhancing liquidity, reducing intermediaries, increasing transaction efficiency, and immutability.[5] As tokens are linked to blockchain, it is technologically impossible to counterfeit a token as the technology time stamps each token transaction and transaction data is preserved in a distributed database shared by different parties. As such, like traditional financial intermediaries manage the economy, blockchain monitors tokenomics. Tokenomics is also linked to the market of traditional financial assets in the sense that tokens enhance the liquidity of conventionally illiquid assets. Compared to digital financial commodities such as stocks, traditional physical assets such as gold, artwork, collectible cars, and real estate properties are considered illiquid, because once they are bought, they remain in the owner's possession for a relatively long time. However, tokens can facilitate the trade of illiquid assets because investors can purchase them with a smaller amount of funding. Therefore, asset tokenization causes a shift of priority from long-term ownership to quick investment in traditional asset markets.

5. OECD (2020); Sandner (2020); Sazandrishvili (2020); Ebrahimiyan (2021).

These benefits and future possibilities of asset tokenization are incorporated into promotional discourses of token issuers that facilitate investors to own tokens. Searle shows that real estate developers make use of the "India story," which are future-oriented discourses that form a "collective narrative about India's growth," to encourage investors to own property (Searle 2016, 51). Token issuers also make use of similarly future-oriented promotional discourses about possibilities and benefits of blockchain-based asset tokenization to convince investors to own tokens. However, this article argues that token issuers' confidence behind their promotional discourses happens not only as part of their marketing strategy but also through their common belief that blockchain effectively works, which the article terms as the blockchain doxa.

Promotional discourses of token issuers address a specific class of investors. In contrast to Marx, who assumes that things naturally have use values, Agha argues from linguistic perspectives of commodity registers that the use-value of things is formulated by creating and targeting a particular group of users who use a given product (Agha 2011). In this way, a commodity is not just there, waiting to be used by someone, but is narrativized to an extent to attract a particular group of users. Their promotional discourses especially target middle-class investors who, in contrast to upper-class individuals, have not owned precious assets such as a Ferrari and Picasso but have sufficient financial leeway and stability to invest in pieces of those assets, unlike those in the low-income stratum. Token issuers narrate a story, for example, that it would be nice to tell their child that they own a part of a Picasso in the museum. In this way, asset tokenization associates middle-class investors with a new possible lifestyle as well (Agha 2011). As such, even if token issuers refer to benefits and future possibilities of blockchain technology and asset tokenization, including financial democratization, those are part of their promotional discourses that justify their business and promote investors to own tokens. In this sense, Searle says that "stories of growth do not describe the future, so much as open up possibilities and motivate others to orient themselves toward them; they are tools" (2016, 51).

Asset tokenization of real assets can be thought of as one example of "language materiality," which is about how language and materiality coproduce "new modes of objectification, circulation, and recontextualization" in global capitalism and neoliberalism (Shanker and Cavanaugh 2012, 356). Asset tokenization of real assets involves linguistic aspects such as the formulation of artificially devised price relationships between tokens and assets, promotional discourses, and smart contract creation, which is one form of computational language. However, it includes materiality of real assets that supports the representational capacity of tokens. In

this sense, asset tokenization is based on linguistic aspects of tokens and material aspects of assets. Tokens and assets coproduce "semiotic capital" that creates a fluid flow of money in traditional asset markets (Kockelman 2006, 90). This semiotic capital will disrupt traditional asset markets and formulate a new finacescape (Appadurai 1996), and confident stance-taking toward blockchain by token issuers contributes to the making of the semiotic capital. Before the article describes the confident stance-taking by token issuers and their promotional discourses, it explains why token issuers can confidently formulate artificial relations between assets and tokens, despite the issues and complexities of blockchain technology.

Users' Confidence and Blockchain Doxa

As the technological nature of blockchain makes decentralization and transparency possible, it makes users more confident about what they do with the technology.[6] However, the technological nature of blockchain on its own does not explain why users can be confident, because blockchain suffers from several problems and complexities. For instance, there are issues of cyberfraud, lack of government and industry regulations, potential application failure, technological complexity, market volatility, and network instability. These issues represent various risks that are not inherent in but still related to blockchain (De Filippi and Wright 2018; Hasanova et al. 2019; Corbet 2022).

De Filippi et al. (2020) argue that confidence in blockchain is dependent on proper governance, operation, and trustworthy actors. However, as blockchain's applicability to human society is still in its infancy, the method and nature of proper blockchain operation and governance, including questions of who operates and governs blockchain, are still being discussed. Moreover, blockchain governance and operation are not as well established as other monetary systems, such as credit card payment. In this sense, this article posits that confidence stems from some other underlying social structure that drives confident human interactions with the technology, which the article conceptualizes as linguistically enforced blockchain doxa.

Doxa occurs when a given sociocultural principle moves from the realm of discourse to the realm of the undiscussed (Bourdieu 1977). The concept is useful to express the current structure of the blockchain sphere, in which users talk more about applications and affordances of blockchain than about blockchain itself.

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6. Vidan and Lehdonvirta (2019); Abbas et al. (2020); Ali et al. (2020); De Filippi et al. (2020, 11); Bodó (2021).

The social status of blockchain gradually moves from the realm of the discussed to the realm of the undiscussed as more and more users apply blockchain for their own purposes. In the case of asset tokenization, actors talk about future visions and affordances of blockchain, such as the wider accessibility of previously inaccessible assets, diversification of investments, and financial democracy, rather than whether blockchain is functional or not. The accumulation and expansion of blockchain applications across industries reinforce facticity and effectiveness of blockchain, because each user needs to frame the technology functional and unproblematic, or "blackbox" it, to do something they seek to do with the technology.

More concretely, blockchain doxa is similar to the case of the car industry. Today, people do not discuss what a car is. They use the concept of the car to make various things such as sports cars, electric cars, hybrid cars, SUVs, and so on. Similarly, in the aerospace industry, people do not talk about what an aircraft is. People do not talk about such concepts as cars and aircraft because those are already well embedded in human society and each industry. This article posits that a similar linguistic phenomenon has begun to happen to blockchain technology as more and more people use blockchain to make services, applications, networks, products, and protocols across different industries.

People do not tend to talk about certain concepts because they are too axiomatic to talk about. Comaroff and Comaroff (1991, 23) effectively explain this cultural phenomenon by using the concept of "hegemony," which they describe as follows:

> We take hegemony to refer to that order of signs and practices, relations and distinctions, images and epistemologies drawn from a historically situated cultural field-that come to be taken-for-granted as the natural and received shape of the world and everything that inhabits it. It consists, to paraphrase Bourdieu (1977, 167), of things that go without saying because, being axiomatic, they come without saying; things that, being presumptively shared, are not normally the subject of explication or argument (Bourdieu 1977, 94).

Certainly, in the history of blockchain development, blockchain is not separable from particular political ideologies such as crypto-anarchism and right-wing libertarianism (Golumbia 2016; Swartz 2018; Tremčinský 2022). Because of these particular political ideologies, only a small group of people used to engage in blockchain development. However, by now, blockchain has been widely used just as "blockchain" across different industries ranging from music

to health.[7] The more the term blockchain is applied, the more users talk about what they can do with blockchain rather than about what it is.

As with the case of aircraft and cars, the widespread use of the term application of "blockchain" by different actors is possible because the word *blockchain* has interpretative flexibility (Redshaw 2017; Woodall and Ringel 2020). Much in the way that the design of a bicycle is influenced by the interests of different social groups (Pinch and Bijker 1984), objectives, desires, and hopes of different socio-economic groups shape different affordances of blockchain and blockchain-based objectives (Du et al. 2019). Just as a bicycle has no single definitive form due to its multiple designs, there are multiple applications of blockchain technology because of interpretative flexibility.

Interpretative flexibility occurs because "blockchain" is a malleable concept. Van Valkenburgh (2017) points out that the concept of "blockchain" is hopelessly broad and too general. When someone says that they use blockchain technology, it is the same as saying "I am driving a vehicle," which does not specify what kind of vehicle the person is driving. Users must interpret and adjust blockchain in their own way, and Satoshi Nakamoto, founder of Bitcoin, is no exception to this (Nakamoto 2008). As the case of Bitcoin and other cross-industrial applications of blockchain show, when blockchain is applied to business, platforms, and systems, it is reframed (Orlikowski and Gash 1994; Bijker 1995), which means that blockchain becomes something else or an applied/interpreted version of the original technological concept, such as Bitcoin, Amazon Managed Blockchain, and IBM Food Trust.[8] In this way, blockchain becomes a "boundary object," which is "both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites" (Star and Griesemer 1989, 393; Kinney 2021).

However, even if something is flexible enough to adapt to different needs, as Latour and Woolgar's (1987) work implies, it becomes factual when other things are based upon it. In other words, borrowing Bourdieu's words, when blockchain is applied and framed, it becomes "above suspicion" (1977, 181). Users need to presuppose that blockchain works when they apply the technology to their project, regardless of relevant issues. Moreover, each blockchain use and application reinforces blockchain's facticity, as they are based on the premise that blockchain serves to realize certain technological goals such as decentralization, immutability,

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7. Nofer et al. (2017); Risius and Spohrer (2017); De Filippi and Wright (2018); Abou Jaoude and Saade (2019); Attaran and Gunasekaran (2019); Bumblauskas et al. (2020).
8. IMB Food Trust: https://www.ibm.com/products/supply-chain-intelligence-suite/food-trust Amazon Managed Blockchain: https://aws.amazon.com/managed-blockchain.

transparency, anonymity, or efficiency. For asset tokenization, these goals are diversification of investors, wider accessibility of perceived illiquid assets, investment efficiency, and financial democratization. Yet, simultaneously, token issuers presuppose that blockchain effectively works to kick-start their tokenization projects.

As a result of the accumulation and expansion of blockchain-based practices, blockchain has become "a network of heterogeneous agents with diverse ends" (Islam et al. 2019, 9). In such a network, there are various blockchain narratives, imaginaries, uses, and applications, each of which contributes to the formulation of the base of the blockchain ecosystem where blockchain becomes unchallenged and natural as a dominant mode of digital profit-making, governance, and management. Just as capitalism and capitalist culture validate each other, blockchain and blockchain culture also validate each other, the latter of which consists of various actors and their blockchain-based activities. Marx and Engels (1998) famously explain this mechanism in terms of "base" and "superstructure." Bourdieu (1977, 164) describes such a relationship as "a quasi-perfect correspondence between the objective order and the subjective principles of organization," which he terms "doxa."

As mentioned, doxa occurs when a given sociocultural principle moves from the realm of discourse to the realm of the undiscussed. This happens when actors move to the realm of practice. For instance, Maurer et al. (2013, 262) point out that "Bitcoin enthusiasts make the move from discourse to practice in their insistence that privacy, labor, and value are 'built into' the currency's networked protocols." Similarly, when people apply blockchain, they move from the realm of discourse to practice where they do not talk about blockchain itself. This practical realm—where people deem the functionality of blockchain effective—has expanded and been increasingly applied to different industrial and sociopolitical contexts.

When people's practices revolve around blockchain, blockchain becomes too axiomatic to talk about in their practices attached to it. Then, practitioners feel that blockchain, as a doxic and axiomatic entity, starts "to promise a world of absolute certainty but with no god, or at least no central figure that could be likened to a god—and yet we have god-like guarantee" (Dodd 2018, 49). Under the circumstances, blockchain's god-like guarantees are presumptively shared by relevant actors, but at the same time, perceptually, it is a network of code, smart contracts, and encryption that eliminates the need to trust centralized authority and even other actors.

The making of artificial sign relations between tokens and assets is possible due to confidence supported by this doxic structure, where certainty is culturally

associated with blockchain as it is not linguistically discussed. Doxa makes sense of this confidence because it explains the user's presupposition that blockchain functions effectively, and simultaneously the presupposition, whether conscious or unconscious, is a trigger of one's confidence about blockchain, and vice versa. In the following section, the article deals with confident stance-taking toward blockchain by token issuers and developers and their promotional discourses to encourage middle-class investors to own real estate and art tokens. These cases are examples of doxa, as token issuers talk about what they did or can do with blockchain rather than blockchain itself because in their practice it is an axiomatic entity. Both cases show that asset tokenization justifies and is justified by doxa and that it is through the accumulation of such cases that blockchain doxa has been expanding.

Confident Stance-Taking by Token Issuers

As an example of real estate tokenization, SolidBlock, a blockchain and Web 3.0 technology-based real estate tokenization service provider, explains a hypothetical scenario of real estate tokenization:

> Suppose you want to tokenize a 100,000 sq ft property that's worth $30M. A simple way to divide the property into shares is to offer one share for every square foot. So you would divide the property into 100,000 shares, each representing one square foot of the property and valued at $300. Alternatively, you could divide the property into square inches, in which case each token would be worth $2.08. You might choose this option to make your project accessible to a wider range of investors. Of course, you could also choose to limit the share offering to a certain percentage of the asset—say 20%, to retain majority ownership while raising funds for a new wing or renovations, for example.[9]

Real estate industries are considered comparatively unmovable and greatly material oriented, but tokenized real estate properties can be more efficiently traded. Joshi and Choudhury (2022, 2) remark that "the blockchain real estate token represents shares when one tokenizes a property, i.e., a real estate asset. These shares can be used for a variety of purposes, including an equity interest, asset ownership, and dividend rights." These are ways to "split lumpy assets into smaller pieces" for facilitating investment with a smaller funding (Baum 2020, 20). Rebuilt in blockchain as a myriad of high-speed tradable tokens, real estate properties can

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9. See https://solidblock.co/real-estate-tokenization.

appear on and disappear from one's portfolio to another at the speed of the internet. These tokens do not need to be managed unlike physical real estate properties. Signifiers will do the job for the signified.

Before tokens start working for liquefying the asset markets, confidence is necessary to let tokens do the job. To reflect on confidence, this article offers two examples of specialists' explanations of real estate tokenization. As a first example, Andrew Baum, professor emeritus at Saïd Business School, University of Oxford, explains:

> Once a real estate asset is represented by a digital security token and governed by the transactional rules of a blockchain, the many frictions of transacting between two or more parties are considerably reduced. Tokenisation appears to offer investors a solution that allows customisable diversification, transactional efficiency, low fees, online secondary market trading, fractional stakes, risk control, more transparency, portfolio automation, and last but not least higher liquidity due to the fact that the tokenised assets have the potential to become exposed to a global economy. (2020, 31–32)

In specifying "*once* a real estate asset is represented," Baum leaves out the stage in which token issuers become confident before a real estate asset is represented; "once" means that they are already confident and that blockchain was presupposed to be unproblematic. With the notion of doxa and confidence, this article tried to capture the stage before "once" within the theoretical framework.

The second example is a statement made by Gabriel Sadoun of Digishares, a tokenization platform provider, at the Florida Bitcoin and Blockchain Summit. Sadoun remarks: "Once that barrier disappears and everything becomes liquid, there is no need for that illiquidity premium, so as a developer, real estate owner, and real estate fund, you are capturing more of the value from real estate. It is a win-win situation because as an investor you are able to sell the next day if you want."[10] The barrier that Sadoun refers to is the issue of illiquid assets that need to be locked in for a long time (5–10 years) to generate significant benefits for investors because of low liquidity in the traditional real estate market.

Once tokens start to move around without intermediaries on a blockchain platform, the barrier disappears and the investment becomes more fluid, active, and diverse. Like Baum, Sadoun also says "*Once* that barrier disappears and everything becomes liquid." In the cases of asset tokenization introduced below, "once" has been implicitly incorporated into different ways of confident stance-taking

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10. See https://www.youtube.com/watch?v = _nUoL67ze2o.

by token issuers/developers toward blockchain. Once they presuppose that blockchain works, they talk about benefits of using blockchain. Once blockchain functions in their project, they start speculating what will happen to the future asset market. The case analysis found that this "Once *A* occurs, then *B* happens" pattern of linguistic reasoning in discourses of token issuers justifies blockchain technology in different orders.

There are some existing projects of real estate tokenization (e.g., "Hello World" in Baar, Switzerland; the St. Regis Aspen Resort in Colorado; a $30 million Manhattan condo; and a €6.5 million luxury villa in Paris, etc.).[11] To explain confidence stance-taking of token issuers, this article focuses on three following cases of asset tokenization: the tokenization of the Hello World property in Switzerland, the tokenization of the St. Regis Aspen Resort in Colorado, and the tokenization of one of Picasso's masterpieces, *Fillette au béret* (Young woman with a beret), by a Zurich-based digital asset bank.

In Switzerland, 20 percent of the property called Hello World in Baar, which consists of 18 apartments and the Hello World restaurant, was tokenized by a collaboration between blockimmo, Elea labs, and SwissCryptoTokens. Although Switzerland is considered one of the most blockchain-friendly countries in terms of its laws and regulations, blockchain's applicability to Swiss society is still in its infancy. This kind of tokenization project is still one of the initial trials within the country. Within this project, four investors bought tokens of the property and successfully received the first rent payout. Bastiaan Don, a founder and managing director of blockimmo, adopted a confident stance toward blockchain technology:

> I am delighted that we were able to pull off this premiere, the first property transaction through blockimmo. The platform is the first secure blockchain product for both private and professional investors.[12]

Furthermore, regarding the possibilities of real estate tokenization, Don states:

> Traditional property investments and their issuing programmes have barely moved forward. In Switzerland, you have a non-transparent market

11. For each case, please see the following sites: "Hello World," https://medium.com/blockimmo/hello-world-from-the-crypto-valley-first-real-estate-transaction-on-blockchain-2bf985b0ff3; St. Regis Aspen Resort, https://venturebeat.com/business/elevated-returns-gets-18-million-for-st-regis-aspen-resort-tokenized-real-estate/; Manhattan condo, https://finance.yahoo.com/news/30-million-manhattan-condo-just-143737272.html; The Anna Villa, https://www.forbes.com/sites/kamranrosen/2019/06/30/europe-completes-its-first-ever-blockchain-real-estate-sale-for-65-million/?sh=8e4849e5a891.

12. See https://medium.com/blockimmo/hello-world-from-the-crypto-valley-first-real-estate-transaction-on-blockchain-2bf985b0ff3.

with asynchronous information that is difficult to access. This has a negative impact on the liquidity potential of the real estate market. By using blockchain technology, blockimmo enables a solution to a problem, representing a paradigm shift for real estate ownership and trading.[13]

Here, Don takes a confident stance toward the affordances of blockchain, but in his first statement, he took a confident stance toward the effective application of blockchain to his specific project. These two statements justify blockchain in different ways. The first statement is about the success of blockchain application to the project, which has actually happened. In this sense, it is a realistic form of justification. However, the second statement is about the transformation of the real estate market by blockchain technology, which has not happened yet. The second statement is a futuristic form of justification.

The moment of "once" exists between these two statements: once blockchain has contributed to the making of secure products in his project, this reality justifies technological capabilities of blockchain; therefore Don refers to "a paradigm shift for real estate ownership and trading." Within the paradigm shift, Don addresses "you," an image of ordinary investors who are troubled because of their limited access to the traditional market but will soon be liberated with blockchain innovations in the future. Furthermore, Don identifies the nontransparency and low liquidity of the Swiss real estate market as existing problems that blockchain can solve in the future. By doing so, Don promotes blockchain-based assets to potential investors and owners. As such, like Don, blockchain users and developers can move to the futuristic justification of blockchain technology, once the realistic justification happens with some successful application of blockchain technology. This relation between the realistic and futuristic order of justification contributes to the formulation of blockchain doxa.

In 2018, part of the luxurious St. Regis Aspen Resort in Colorado was tokenized to digital investors. The project enabled ownership of an internationally recognized resort by more investors. Due to this project, the resort "has seen its digital investor base expand from less than a dozen investors to over 500 currently (perhaps from 2018 to 2019)."[14] Token holders can get 20–50 percent cash back on hotel rooms and gift bags with luxurious items as benefits of their investment.

Stephan De Baets, the St. Regis Aspen owner, takes a realistic, confident stance toward blockchain, remarking that

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13. See https://medium.com/blockimmo/hello-world-from-the-crypto-valley-first-real-estate-transaction-on-blockchain-2bf985b0ff3.
14. See https://marketspace.capital/real-estate-tokenization-st-regis-aspen-resort-2/.

four years ago, we decided to innovate in the field of hotel ownership, and we created a digital finance instrument that allows anyone to own a piece of this wonderful property.[15]

De Baets further adds,

I believe the technology that we see, the blockchain technology, enables lots of applications that were not possible before.[16]

Friends of De Baets have been asking how to become luxurious hotel owners for years. With the effective implementation of blockchain to tokenize his resort, De Baets points out future possibilities of blockchain application to hotel ownership in general. He states:

The world ownership of hotels is very incestuous, either you have to be a billionaire or you need to be a big corporation. Democratization of ownership is something that is bound to happen in the next five to 10 years, and we're happy to be the leader in that direction.[17]

As with the case of the tokenization project in Switzerland, De Baets's three statements can also be viewed as expressing different orders of justification. One can see that the justification of blockchain technology becomes more and more futuristic from the first to the third statement. The first statement is a realistic confident stance-taking toward blockchain in the sense that the digital finance instrument that incorporates blockchain was effectively created. The second statement is ambivalently realistic and futuristic. It is, in fact, the case that blockchain technology has been making several innovative applications possible across different industries. However, the same statement also means that blockchain "will" enable more applications in the future. The third statement is completely futuristic because democratization of ownership is De Baets's speculation and it will depend on future performance of the blockchain industry. Furthermore, the third statement is a promotional discourse that facilitates token investment. In the statement, De Baets implies that financial democratization is a wave that investors should not miss and be one of the first to get on. In this context, similar to Don's statement, De Baets also addresses "you," which signifies a middle-class figure who has not

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15. See https://www.denver7.com/news/local-news/st-regis-aspen-releases-20-of-ownership-to-the-public-for-purchase-via-cryptocurrency.
16. Ibid.
17. Ibid.

had a chance to become a luxurious hotel owner in the past but may be allowed to do so with blockchain innovations in the future.

Tokens and smart contracts seek to dismantle not only real estate properties but collectibles as well. The art industry has started to experience the influence of tokenization. Blockchain has the potential to establish "the alliances between the art market and the art world," the latter of which "still relies on conventional, 'old-fashioned,' relatively opaque values and procedures" by functioning as a transparent tool for evaluation, management, recording, valuation, and pricing (Abbate et al. 2022, 107). Moreover, another issue of the art market is that it has been confined to a small group of high-class investors and collectors, as gate-keeping and elitism are prevalent in the art world (Abbate et al. 2022). In this context, blockchain has been applied to such purposes as provenance, fractional equity, art objects, and shared guardianship (Whitaker et al. 2020; Liddell 2021). Due to blockchain technology, not only so-called nonfungible token (NFT) artists but also the art industry has started to see tokenization of real, precious paintings.

In 2021, Zurich-based Sygnum, the world's first digital asset bank, partnered with Artemundi, an art investment service provider, and tokenized one of Picasso's masterpieces, *Fillette au béret* (Young woman with a beret), into 4,000 tokens. Tokens were sold to more than 50 investors at approximately $1,040 each. Now, "a Picasso painted itself onto the blockchain" (Rivers 2022).

Lumbreras, CEO and co-owner of Artemundi, takes an explicitly confident stance toward blockchain: "Now with the tokenization, we are able to *passionately own* this wonderful Picasso and simultaneously [make] an investment in art within the regulated environment and bankable transactions."[18] Whether blockchain works or not is not a problem at this stage of implementation, as it is already presupposed to function effectively.

In this statement, Lumbreras talks about the conflation between ownership and investment in Picasso's painting, but this ownership is different from the one in traditional art industries that has a static, long-lasting, and dominant connotation. If someone owns a precious painting, this ownership usually signifies his power and long-lasting possession of the painting. However, blockchain enables multiple persons to share one painting, and they can sell their share of the painting at any time. As with the case of real estate tokenization, blockchain realizes a shift from sole ownership to collective sharing of precious assets. The statement is realistic as it refers to such a new financial environment that blockchain can realize.

18. Emphasis added; see https://www.youtube.com/watch?v=jVTkrldVyqM.

Mathias Imbach, a cofounder and CEO of Sygnum, adds to Lumbreras's re-
marks as follows:

> That is exactly what we do by creating exciting new investment opportu-
> nities, which ultimately will also lead to democratization of capital allo-
> cation [and] access to new innovative investment opportunities such as
> this painting. Obviously, [it] is also [a] very important topic when it
> comes to leveraging the blockchain technology because every transaction
> when something of value is passed from one person to the next, [it] is
> clearly indicated on the blockchain.[19]

This statement is realistic in its latter part about the function of blockchain that
can make transaction data transparent, but it is futuristic as it speculates on the
"democratization of capital allocation." Yet, the statement rests on the presup-
position that blockchain works and justifies the technology at different levels
like Don and De Baets. Moreover, like Imbach, regarding a future potential
of artwork tokenization, Lumbreras further states:

> In my 37 years of collecting art, I never imagined this could happen. Ar-
> tistic, cultural objects of universal appeal, once reserved for an elite group
> of collectors or the museums, can now be safely and directly owned with-
> out the burden of high entry barriers, such as information, knowledge,
> connections, and capital. The art market is absurdly opaque and ineffi-
> cient, but these traits will soon be relics of a bygone age.[20]

As Lumbreras indicated in his first statement, the market of expensive artwork
has been exclusive to a specific group of elite owners and investors. For devel-
opers of asset tokenization, as long as the accessibility of traditional financial
assets is confined to a small group of investors, it is not democratic.

However, Lumbreras says, "today you can own a token of an artwork like this
and basically enjoy the same benefits that many people have been having for a
very long time."[21] In this promotional discourse, perceived data transparency of
blockchain technology and financial diversification through tokenized assets will
overcome high entry barriers of the collective art industry consisting of highly
private connections, limited information, professional knowledge, and a large
amount of investment capital. Here, financial democratization, as both Lumbreras

19. See https://www.youtube.com/watch?v=jVTkrldVyqM.
20. See https://www.insights.sygnum.com/post/sygnum-bank-and-artemundi-tokenize-a-picasso-on-the
-blockchain#viewer-fkegb.
21. See https://www.youtube.com/watch?v=jVTkrldVyqM.

and Imbach point out, emerges as their mission and will make the future of art-work investment brighter. In this context, Imbach takes a confident stance that "it has been Sygnum's mission from the start to empower investors with more direct access to ownership and value. The tokenization of *Fillette au béret* exemplifies how we bring our mission to reality, unlocking a universe of unique investment opportunities that can be made accessible to many."[22] Moreover, Lumbreras also suggests in an eager manner, "how exciting [it] is just to walk into a museum, holding your kid's hand, and say 'son this painting is ours.'"[23] Here, Lumbreras tries to evoke the emotional attachment of potential owners to Picasso's painting and empathetically explains what it feels like to have a precious painting as an ordinary investor.

However, the case of the tokenization of Andy Warhol's *14 Small Electric Chairs* shows the ambiguity of the democratic ideology of asset tokenization (Emem 2018). This was a blockchain auction held by Maecenas, an art investment blockchain platform, with assistance from Dadiani Syndicate, a London-based fine art gallery. The work was worth US $5.6 million at the time, and auction participants were allowed to use Bitcoin, Ethereum, or Maecenas cryptocurrency to purchase fractions of the work. The auction seemed to be exclusive and nondemocratic, as "the bidders were mostly drawn from Asia and Europe and were a mix of cryptocurrency enthusiasts, sophisticated investors and fine art professionals" (Emem 2018). This case indicates that the idea of making the traditional financial market more accessible and democratic seems to rest on increasing the number of investors, not on diversifying the type and background of investors.

Furthermore, going back to the case of Picasso's painting, Jeniffer Zellweger, a member of Sygnum, claims that artists would appreciate tokenization of their painting. During the interview, Dom Castley, Sygnum's chief marketing officer, asked, "If Pablo [Picasso] was here today and attending our event, what do you think he would make of the tokenization of his painting?"[24] To this hypothetical question, Zellweger answered:

I think he was quoted as saying art is always subversive and he himself was also very revolutionary and innovative, so I think he would get a kick out of all of this. And additionally, like many artists, he didn't really like dealing with the financial aspects of things so he would probably appreciate the fact that we've established the roles of administrator and manager

22. See https://www.insights.sygnum.com/post/sygnum-bank-and-artemundi-tokenize-a-picasso-on-the-blockchain#viewer-fkegb.
23. See https://www.youtube.com/watch?v=jVTkrldVyqM.
24. See https://www.youtube.com/watch?v=xWk_TCLOAZY.

taking care of the whole investment so basically you can just lean back
and everything's taken care of.

Needless to say, what Pablo Picasso thinks of the tokenization of his painting is
not the main problem in this statement. In this question and answer, Picasso
functions as an imagined discursive figure, or "shadow subject," to cultivate
the enthusiasm of other artists toward artwork tokenization (Taha 2017).

However, it is not necessarily the case that asset tokenization will appeal to art-
ists. In 2019, ArtBloc, an art-focused blockchain project based in South Korea,
announced a project to tokenize two paintings, *Focus Moving* and *Pictured Gath-
ering with Mirror* by David Hockney, a popular British painter who is renowned
as "the most expensive artist in the world."[25] In this project, *Focus Moving* was
divided into 8,500 tokens, while *Pictured Gathering with Mirror* became 5,000 to-
kens; each token was worth 9,900 won ($8.18) at the time (Aljic 2019; Asia
Blockchain Review 2019). However, Hockney himself was skeptical about own-
ing tokens. In a podcast series called *Waldy and Bendy's Adventures in Art*,
Hockney asks, "What is it that they're owning? I don't really know. . . . Things
can get lost in the computer."[26] Hockney's remark indicates a lack of confidence
in owning tokens, which stems from technological complexity or a mistrust in
blockchain.

Overall, the three main examples of asset tokenization provide a partial picture
of the blockchain art industry today in which actors talk less about blockchain
itself than about what they imagine can be done with the technology. With these
examples, the article finds that there are different orders of justification. First of
all, users justify when they implement it in their project. This is a stage of presup-
posing the functionality of blockchain. Although blockchain has some problems,
they need to assume that it effectively works in their projects. Next, they justify
blockchain when blockchain has actually worked in their project. This is a realistic
and evidence-based way of justifying blockchain technology. Finally, users justify
blockchain when they imagine the future of the asset market that will be trans-
formed by blockchain. Such different orders of justification contribute to block-
chain doxa unfolding in the blockchain industry today.

Especially, in the futuristic form of doxic justification, token issuers tend to re-
fer to some of the larger-scale and market-wide issues (e.g., low liquidity, market
exclusivity) and benefits (e.g., the potential paradigm shift of the real estate and art
market, financial democratization) that blockchain can solve and bring in the

25. See https://coingeek.com/artbloc-will-be-used-to-sell-david-hockney-paintings/.
26. See https://podcasts.apple.com/gb/podcast/season-3-episode-13/id1510587218?i = 1000515639770.

future. In doing so, they create a specific forward-looking, speculative narrative that regards tokenized markets as superior to traditional markets to encourage investors to own tokens. Moreover, the article found that in all three examples, token issuers addressed "you" as potential middle-class owners/investors of tokens who will benefit from asset tokenization in their confident asset token stories. Yet, the cases of Andy Warhol and David Hockney also show that asset tokenization will not transform the future asset markets unless more people become comfortable with blockchain and this specific way of investment and ownership.

Conclusion

If more buyers and sellers become confident about blockchain, the splitting power of asset tokenization will make investing in precious assets similar to shopping, in the sense that asset tokenization makes things, which belong to distinct value categories that represent owners' class and power, available to more people as if they are common things to buy. The Organisation for Economic Co-operation and Development (OECD) reports that "tokenization of assets may allow for the slicing up of assets" (OECD 2020, 16). This slicing power, which comes into effect after tokens effectively represent a given asset, is justified by the underlying confidence of both sellers and buyers in the tokenization process. Consequently, when assets are divided into tokens, the following is what can happen in this emerging secondary market:[27]

> *Shopper*: I'd like one piece of a luxury villa in Paris, two pieces of a shopping mall in New York, and another piece of a flat in Hong Kong, please.

> *Vendor*: Great choice. That'll be $28.90, please.

This process is the same for a number of traditional assets. In this tokenized supermarket, someone can buy four pieces of a Ferrari, eight pieces of a Lamborghini, and 129 pieces of a classic Mercedes-Benz, if the amount suits their purchasing power and interest. In this secondary market, the totality of an asset is divided to the point where it becomes accessible to those who would not usually be able to afford them as part of their portfolio. In this sense, asset tokenization can diversify the investment of traditional assets. Huillet (2021) remarks that

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27. See https://rimo.digital/2022/02/08/tokenized-real-estate/.

"if just 0.5% of the total global property market were to be tokenized in the next five years, it would be on track to become a $1.4-trillion market."

In this secondary market, precious assets are no longer perceived to be a symbol of high-class distinction and habitus (Bourdieu 1984). They would become part of the socioeconomic life of middle-class investors (Appadurai 1986). In this sense, tokenized assets are thought to become a way to democratize finance and proliferate "shares" in their word that make alternative realities. However, no one is sure about to what degree the finance of tokenization is democratized, as token holders are fundamentally anonymous and tokenomics functions under the principle of decentralization. In this sense, the democratization of finance through asset tokenization, conducted in the name of facilitating financial accessibility, transparency, global exposure, and efficient transaction in blockchain, is not the objective of asset tokenization but rather the justification of the practice and the representation of token issuers' confidence and their storytelling.

Accessibility and diversification have become synonymous with democratization; yet, one is never sure whether or not gold miners in Peru actually own tokenized gold backed up by what they have mined. However, while investors are anonymous, it is highly likely that existing investors in the traditional gold market or crypto enthusiasts are interested in tokenized gold to expand their investment portfolio. Similarly, due to blockchain, no one can truly know if a Picasso is democratically shared or not, if "democratically" means "owned by people from different economic backgrounds." When someone owns tokens of a given painting in the museum, it is more likely that it is a middle-class person who will say, "son, this is our painting," than a working-class person. Thus, tokenized paintings will produce a different-level inequality between middle-class and working-class individuals. Tokenization allows for Picassos to be divided; however, this does not mean that the tokens are guaranteed to be distributed to those who have never or would have never owned a Picasso in their lifetime. Thus, the emerging secondary market will be more liquid due to asset tokenization, but it will not necessarily be diverse or democratic.

Overall, the tokenization of real estate property and artwork partially reveals a complex financial practice, through which, ideally, a wider range of investors should purchase assets that are usually inaccessible to them. Tokenization of these assets is carried out with the notion that dismantling assets and creating tokens will facilitate diversification, wider accessibility, efficiency, and even financial democratization in asset markets. However, these affordances are made possible because of the confidence of token sellers and the doxa of blockchain, as cases

of confident stance-taking show above. Doxa encourages relevant actors to focus on the positive things blockchain can do and has been able to do, causing them to overlook present issues, limitations, and challenges. These issues limit the potential of blockchain, cryptocurrency, and tokenization. Nevertheless, doxa makes relevant actors confident about the future performance of blockchain. It also justifies their confident participation in asset tokenization and their intention to fulfill their objectives before complexities and issues ruin the economic opportunities of asset tokenization. In this specific temporal context, tokens hold the same exchange value as assets, and an artificially devised relationship between tokens and assets emerges, through which a Ferrari can be sold like sliced meat and Picasso can be painted on blockchain.

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