LOVE ON THE BLOCK

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Bitcoin Transaction = 5ff791ac0c4e4f04cceefe178e9a25ae2f0eb00f30d5eb4cd73aaea0d3
45f541
Hex = 6a1d57652077696c6c20736861726520746869732020736f6c656d6e20766f77
Ascii = We will share this solemn vow
$ 708.93 - $ 708.75
Transaction fee = $ 0.19
(231 bytes)
86653 Confirmations
17ePTBvtX6msSC6jqPbgacyvo6r5QttWkM
16Cz5s37SwhThspFfQZCE8ttYpmVRx6miJ

Bitcoin Transaction = c20f6b396208cadc951a33cd1ee7ce4a8b8c7cc1bfffcc22eb9156e-
b0af68dae
Hex = 6a247769746820657665726c617374696e67206c6f766520696e-
206f7572206865617274732c
Ascii = with everlasting love in our hearts,
$ 79.97 - $ 79.78
Transaction fee = $ 0.19
(238 bytes)
86653 Confirmations
1FoJPn8mHZTeiPhLpzxWe29ds5MWhEPvXG
1C6MFsat54HeD51uzjbVSbL6YdsQWVJh3D

Bitcoin Transaction = 1be8855420bf4cbb4b0e23a74e42f6c04195d78ab149fb0a5f67d-
f216739e2a9
Hex = 6a1566726f6d20746869732076657279206d6f6d656e74
Ascii = from this very moment
$111.97 - $111.78
Transaction fee = $ 0.19
(223 bytes)
86652 Confirmations
1DYcB34vPPSD1Ex93FEV73TWpizHB7yKjP
12X8o3ZKWXAqF1J111fLiaxH9PCnMNzzFm

Bitcoin Transaction = 017202287321d49bdd4a793d5a1a112d3fd853df193b-
97b0578797a759f1552f
Hex = 6a18756e74696c206f7572206479696e6720627265617468732e
Ascii = until our dying breaths.
$124.65 - $124.47
Transaction fee = $ 0.19
(226bytes)
86653 Confirmations
1EV4qtBCUAVGmd99uFJoNDetQVYWq39jcE
198Yi4E4M4TtTWDVGtmx54aP11kt6Hb1FN

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1.   Ruth Catlow, Marc Garrett, Nathan Jones and Sam Skinner (eds), *Artists Re:Thinking the Blockchain,* Liverpool and London: Torque and Furtherfield, 2017.

> For better or worse, till death do us part, because the blockchain is forever.
> —Wedding Vows of David Mondrus and Joyce Bayo[2]

For many, using bitcoin to officiate a marriage sounds as romantic as a first date outside a high street bank, but the various ways in which people are developing bitcoin, blockchain and cryptography to encapsulate love and administrate civic arrangements, such as marriage, reveal a deeper devotion towards blockchain technology as the new church and state. Since the first bitcoin marriage ceremony in 2014, couples have continued to express their love on the blockchain and adapt the marital contract from encrypting vows into bitcoin payments to designing 'smart contracts' that combine networked devices with coded contracts stored on the blockchain. Whilst some initial wedding ceremonies were performed by a small number of extreme bitcoin fanatics there has since been further experimentation occurring within a wider movement in the crypto-community — one that aims to proliferate the viability of the blockchain as a governance technology that replaces central authorities. Looking at bitcoin weddings, we see not just individuals invested in the notions of permanence and viability implicit in the blockchain, but a spiritual commitment to the blockchain ideal – a faith that it will not only transform legal arrangements, but inaugurate a technologically absolutist model of governance that defies and circumvents traditional organizations of power. Bitcoin weddings are the start of a sermon that aims to persuade society of the blockchain as an alternative system for the administration of society. They are symbolic of a wider-culture within crypto communities that go beyond political ambition to reveal a spiritual dimension to cryptographic protocol where belief, faith and performed acts of software sovereignty become lived commitments to technological fundamentalism.

> What do libertarians find the most romantic in marriage? The contract.
> —Reddit user engelk[3]

The first recorded example of a bitcoin wedding ceremony was between Joyce Bayo and David Mondrus in Disneyworld Florida, where the couple stood in front of the alt-altar of a bitcoin ATM machine. The pair used the ATM to pay one another with the attached comment: *'For better or worse, till death do us part, because the blockchain is forever'*. Bitcoin is used in this case to cement a belief in the permanence of blockchain ledger, however anyone unfamiliar with the underlying technology would be forgiven for asking why the couple didn't just use their credit cards and alter their vows to '*For better or worse, till death do us part, because Visa is forever'.* Swapping the alter for a bitcoin ATM signifies a growing ambition to use encryption, cryptography and the blockchain database to pursue the notion of using financial transactions as more than payments but also as contractual agreements. Oscar and Yenni from Indonesia performed their marriage in a similar way, but encoded much lengthier vows as hex strings into a series of transactions. Each transaction contains a hex string that when converted into ASCII (American Standard Code for Information Interchange) reveals their

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2   'How Humans Now Use the Blockchain to Declare Love and Marriage', *Blogchain.info,* 14 February 2017, http://blogchain.info/post/how-humans-now-use-the-blockchain-to-declare-love-and-marriage.

3   'Couple to use Blockchain to Contract Marriage. I'm Honored to be Officiating', *Reddit,* 25 September 2014, https://www.reddit.com/r/Bitcoin/comments/2hffwd/couple_to_use_blockchain_to_contract_marriage_im/.

personalized, encrypted vows. Oscar transferred over $2,000 to eighteen arbitrary ac-counts in order to encode the vows over a series of bitcoin payments into a number of blocks. With each block taking on average 10 minutes to clear the process of validat-ing the vows would have taken longer than David and Joyce's one off payment and perhaps distributing one's vows over multiple payments shows a longer lasting love. The grooms in both marriages (David Mondrus and Oscar Darmawan) are well known bitcoin investors and publicity stunts such as this are often engineered to serve their financial interests. In this sense both weddings were successful and circulated widely on crypto-currency news sites and Oscar was awarded a certificate for holding the first Indonesian bitcoin wedding.[4] David Mondrus is the CEO of a bitcoin jewellery store, so the wedding appears to be a staged opportunity to promote the QR Code rings he had on sale at the time (unfortunately 'red box jewels' no longer seems to be online).[5]
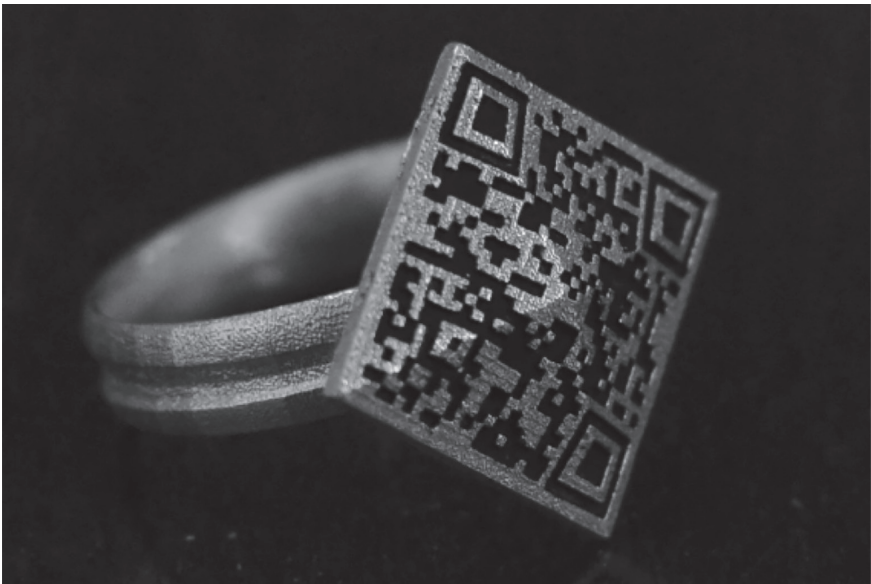

Fig. 1. The BTC ring (http://thebtcring.com, 2015).

For these grooms the bitcoin wedding serves as a novel way to inflate the market price of your favourite crypto-currency, however these symbolic acts also reveal personal devotion towards bitcoin and turns the belief in blockchain's permanence toward a spiritual dimension. By turning 'proof of work', the cryptographic process for validat-ing bitcoin transactions, into 'proof of love', what other feelings, relations and social bonds can be re-configured as blockchain transactions? The marriage is one of the more popular civic arrangements to become cryptographically re-configured and en-crypting one's vows is just the beginning of a series of experiments with programming contracts, which will also include property rights and even automating divorce.

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4   Rahmat and Ori, 'Indonesian Record Museum (MURI) Bestowed a Special Award at CEO Bitcoin.
     co.id', *Steemit,* 5 July 2016, https://steemit.com/bitcoin/@rahmat/2gwcng-indonesian-record-
     museum-muri-bestowed-a-special-award-at-ceo-bitcoin-co-id.
5   http://www.redboxjewels.com.

Fig. 2. Oscar & Yenni Wedding Invitation (http://bitcinwedding.com, 2015).

I have participated in the design of a blockchain based wedding application with The Design Informatics department from University of Edinburgh where we designed proto-types based on a geo-locative crypto-currency called 'GeoCoin'.[6] 'GeoCoin' is a plat-form that connects GPS data to digital wallets for crypto-currencies, enabling users to design financial or economic arrangements based on location and movement. We developed a smart contract that would enable people to create temporary shared bank accounts between one another whose spending would be bound by their location data. Like marriage, it joined individuals to share finances based on their physical proximity. This application was named *Handfastr* after the informal practice of 'handfasting' in the middle ages — a temporary marital arrangement that was valid without having to be solemnized by a priest or the church.[7] *Handfastr* uses GPS data to enforce a smart con-tract — a self-executing script stored on the blockchain — so that when two or more people are together in the same physical space they can access and spend money

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6   http://geocoin.site/.
7   'History of Marriage in Great Britain and Ireland', *Wikipedia,* https://en.wikipedia.org/wiki/History_
     of_marriage_in_Great_Britain_and_Ireland.

from the same digital wallet. The difference between blockchain based smart contracts such as *Handfastr* and the bitcoin wedding ceremonies previously mentioned is that while a bitcoin ceremony happens once with a financial transaction (or series of trans-actions), a smart contract is a piece of code containing rules and conditions that can be executed over a period of time. Think of a bitcoin wedding as a ceremony, and the smart contract as the marriage that emerges, requiring laws to untangle and annul it.
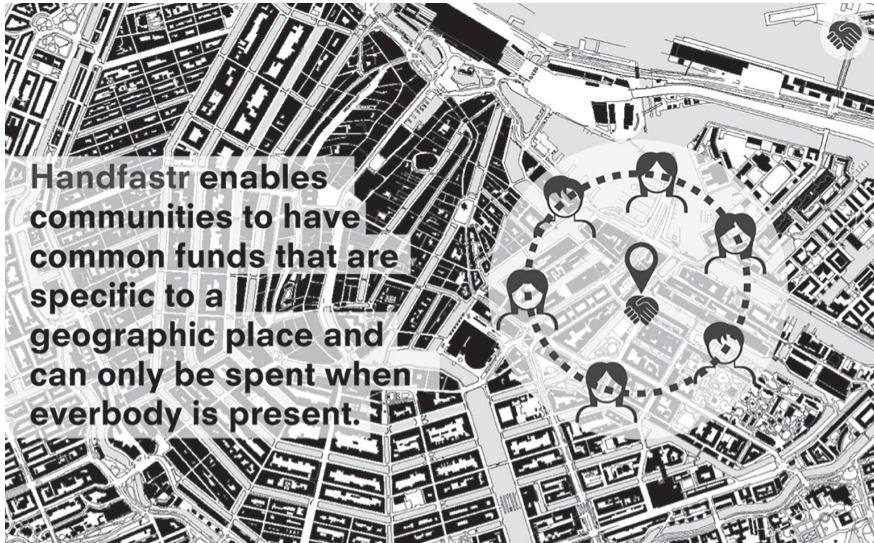

Fig. 3. Handfastr (Corina Angheloiu, Max Dovey, James Stewart, 2016).

Programmers have also begun experimenting with how smart contracts could be used to process — even anticipate — the conditions for a divorce or separation of couples. The opportunity to code legal procedures that involve the splitting of property, own-ership and access rights is a logical application of these tools for blockchain based programmers' eager to demonstrate the viable efficiency of networked governance. A common attitude is that blockchain technology liberates individuals from the central-ized powers such as the church and state, however, experiments in smart contract systems such as this should be critically reflected upon and we should ask what kind of arrangements do we want to turn into autonomous governing system(s).

Weddings & divorces are just one of many civic and legal procedures that are being engineered into blockchain contracts and it is interesting to consider this development as part of a political trajectory that originated from an obscure cypherpunk mailing list. In *The Politics of Bitcoin: Software as Right-Wing Extremism* David Golumbia highlights the extreme libertarian free market attitudes that have driven cryptology and technology to enable greater individual freedoms.[8] The ambitions within this community no longer merely lie within unregulated currencies, and the shift towards bitcoin weddings and blockchain governance has given rise to a notion of 'crypto-sovereignty' where block-

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8   David Golumbia, *The Politics of Bitcoin: Software as Right-Wing Extremism*, Minneapolis, MN: University of Minnesota Press, 2016.

chain software, protocol and encryption provide founding ideals with which to form and experiment with exclusionary sovereign states. Blockchain platforms such as Ethereum — a platform that allows people to write and develop code onto a custom blockchain that can host and execute smart contracts and Decentralized Autonomous Organizations (DAOs) — encourages programmers to envision how decentralized ledgers can be used to create consensus based systems and experiments in creating non-hierarchical organizations. I would argue that while the libertarian crusade to undermine institutional powers such as the state and church remains the dominant political ideology that motivates a large extent of blockchain culture, there is a committed devotion forming within certain sub communities towards different software that informs ambitious visions of crypto-sovereignty, borderless nationalism and blockchain fundamentalism.

> My goal is to take_under government. Let them invite us in and do a few things. Eventually government replaces itself on the blockchain.
> —Comment from BirdsPointOfView in response to thread: 'Using Ethereum to create a digital political party?'[9]

Ethereum is a blockchain based platform that explicitly encourages developers to build experiments in voting systems, legal applications and democratic organizations which are broadly defined as 'governance 2.0.' applications. For example, Ethereum's landing page displays a visual guide on how to 'build a democracy on the blockchain' and many applications use the platform to demonstrate alternative governance structures that use non-hierarchical voting to reach a consensus.[10] The consequence of facilitating the creation of 'unstoppable applications' has been that a large portion of the Ethereum community now harbours ambitious visions of how blockchain, DAOs and smart contracts can replace traditional state governments.

Ethereum founder Vitalik Buterin maintains the belief that Ethereum will one day be a 'world computer' that could potentially manage citizens through decentralized applications, or in turn via a combination of de facto coded law and self-executing software connected to Internet of Things (IoT) devices. While many experiments to 'take under' government remain speculative thought experiments within the Ethereum reddit community, *Bitnation* has undertaken the most prolific experiment into crypto-sovereignty with what it calls a 'Decentralized Borderless Voluntary Nation' through situated embassies, bitcoin ID citizenships and a 'blockchain powered jurisdiction'.[11] In an attempt to transcode all existing law into coded self executing contracts, Bitnation have also tried their hand at smart contract weddings. Called *Smart Love*, the contract turns the commitment of 'legacy weddings' into 3 defined protocols:

– Proof-of-Commitment to sustain an enduring relationship
– Proof-of-Acceptance of the union by friends and family, and the community at large
– Proof-of-Support of each other, including shared risks and shared rewards[12]

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9   CuttieSark, 'Using Ethereum to Create a Digital Political Party?', *Reddit,* 1 October 2016, https://www.reddit.com/r/ethereum/comments/55dxnq/using_ethereum_to_create_a_digital_political_party/.

10 For an up-to-date list of the most recent check http://dapps.ethercasts.com/.

11 'Governance 2.0', *Bitnation,* 21 March 2017, https://bitnation.co/.

12 'Smart Love', *Bitnation,* 5 November 2016, https://blog.bitnation.co/smart-love/.

The *Smart Love* experiment is yet another example of experimentation that questions the boundaries of how common and civic laws can be adapted into coded smart contracts. The applications interface incorporates the deployment of smart contracts within a chat messaging client that would allow for emoji and other symbols to activate coded contracts between different parties. The integration into messaging applications obfuscates coded contracts into communication technology and hopes to turn messaging interactions and emoji into activations of 'common law'. The authority of this 'common law' will only be created through the adoption of mass users and until then, even the developers admit that it remains purely symbolic (for now).[13] The question remains weather the current marketing strategy of 'democratizing power' will be effective in convincing others to participate in 'de-centralized borderless nations' in favour of sovereign nation states. While DIY experiments such as Bitnation are still in their infancy, there is very little that deters the ambition within the blockchain community of the potential for crypto-sovereignty and de-centralized governance.

The confidence within the blockchain community to eventually 'take under' government bodies combines both libertarian political sentiment with a spiritual belief in the blockchain's ungoverned autonomy. This belief came under scrutiny in June 2016 when over $50 million was leaked from a DAO with over 10,000 members. The Ethereum foundation found themselves in a difficult position — to intervene and hard fork (rolling back all transactions to a point in time that preceded the alleged hack), or to continue and permit the transactions associated to the hack and lose a lot of investors and a lot of money. The majority of them voted to intervene, undermining the founding philosophy of blockchain as an un-regulated autonomous entity, consequently splitting the community based on differing blockchain ideas and philosophy. What emerged — and what is important to the subject of this chapter — was a small alliance of die-hards that expressed their devotion towards Ethereum's roots *as* non-regulated — refusing to acknowledge the new fork as it was the product of (human) intervention. This alliance continued to trade on the blocks that had been affected by the hack, forming a devoted group of blockchain purists that divorced themselves from Ethereum and are known as the 'Ethereum Classic' community:

> Let it be known to the entire world that on July 20th, 2016, at block 1,920,000, we as a community of sovereign individuals stood united by a common vision to continue the original Ethereum blockchain that is truly free from censorship, fraud or third party interference. In realizing that the blockchain represents absolute truth, we stand by it, supporting its immutability and its future. We do not make this declaration lightly, nor without forethought to the consequences of our actions.[14]

The Deceleration of Independence is interesting in many ways. Firstly, it reveals conflict between the communities' differing crypto philosophies, and illustrates that when things don't go to plan, it is useful for *someone* to be able to step in and fix the 'unstoppable application'. Secondly, it highlights the proto-patriotic language that represents

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13   'Smart Love', *Bitnation*.

14   'The Ethereum Classic Declaration of Independence', *The Ethereum Classic Community,* 2017, https://ethereumclassic.github.io/assets/ETC_Declaration_of_Independence.pdf.

an emerging sovereignty within the blockchain community and an extreme devotion with which some individuals make towards different blockchain legions.

At first sight, bitcoin weddings may appear as novelty acts of public devotion but as I have indicated, they pave the way for such further pseudo-religious and pro-to-patriotic acts such as the 'statement of independence'. These language acts of crypto-sovereignty do not occur in isolation and emerge at a time when blockchain technology is not only being adopted by the financial sector but NGOs and government bodies. Bitnation's experiments into creating decentralized borderless nations has resonated with the Estonian government to such an extent that they are now working together on providing borderless citizenship with the e-residency program.[15] This demonstrates how the initially novel, strange or more extreme fantasies within the crypto-community emerge and get integrated within governments on an (inter) national scale. In order to prevent, or even critically reflect on such projects, it is important to articulate and engage with the political and spiritual motivations that drive the proliferation of such applications to begin with. Failing to do so will end up with us falling for blockchain's 'revolutionary potential'[16] without engaging with some of the radical sub cultures and extreme fundamental views that initiate and proliferate projects such as e-citizenship, marriage contracts and statements of independence. This will lead to the creative and imaginative potential getting captured and pre-determined within a dominant crypto hegemony and it will become even harder to experiment and design in this space without encountering a spiritual or extreme fundamentalism towards different crypto-cultures. How far away are we from blockchain funerals, blockchain birth registries, blockchain medical records? It is already possible to encode your DNA genome onto the blockchain[17] perhaps encouraging further experimentation into how bio immortality could lead to further spiritual relations towards the permanence of blockchain and a ledger afterlife. Analyzing patriotic acts of sovereignty, faith and wedlock should help us critique and counter the propositions made by some of the more extreme members within the blockchain community and become aware of the spiritual beliefs that fundamentally drive the transition of blockchain from banks and business to church and state.

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