

# Breaking News

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By Chantelle de la Rey and Aleksandar Svetski



## Blockchain is dead

"WHAT IMPORTANT TRUTH DO VERY FEW PEOPLE AGREE WITH YOU ON?"

Peter Thiel, Zero to One

In early 2018, I was on stage talking about how ridiculous "blockchains" and ICO's were.

My talk was entitled "Blockchain's AOL Moment" - in honor of the complete failure that AOL became, and the magnificent

success that "silly, useless, slow" network the internet had become...



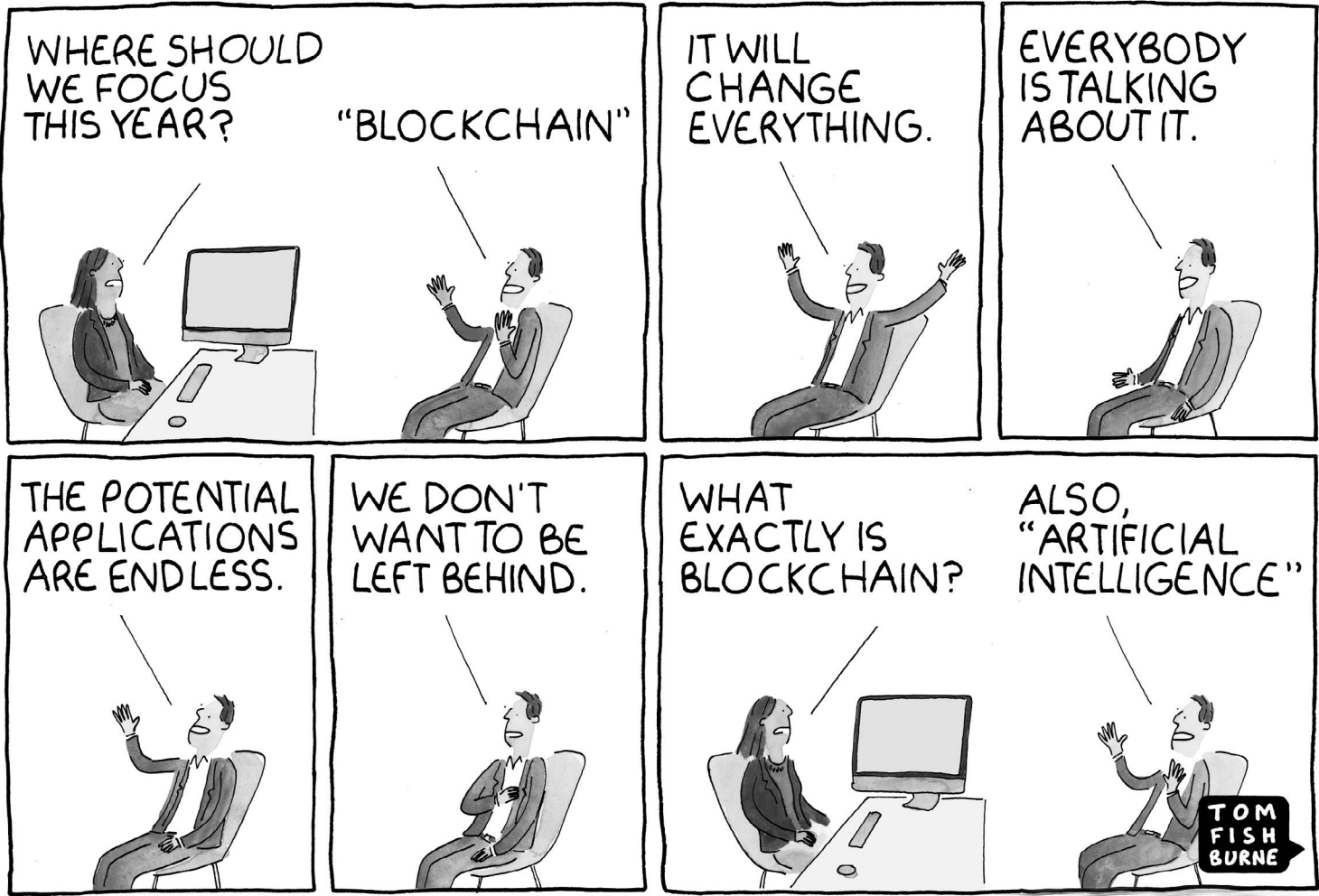


Figure 1

..Some people laughed, some got angry, but the smart ones - well - they listened. And in the process, probably saved themselves a lot of money..

This year - I'm going to up the ante. The word blockchain is still alive. It's just moved from the vocabulary of the opportunistic so-called entrepreneurs (a.k.a. morons), to the other end of the spectrum..Corporates.

Corporates, like IBM and JP Morgan - who we all know, are always late to the party. It takes a little time for the marketing department, suffering from FOMO, to get their message across to the board, i.e.; "we need to do something with this blockchain thing".

So this year we'll probably see some ridiculous "enterprise blockchain" stuff appear, but I predict they too will fade away into oblivion, like the ICO's of the

last few years, and AOL 20yrs before that.

So...what important truth do very few people agree with me on?

It's the ultimate contrarian question isn't it?

My answer and the inspiration behind this paper:

**Blockchain is Dead.  
The future is on Lightning.**

The last few years have been a festival of hype, stupidity and downright madness.

It's time to call out and discard the rubbish, and lay a fresh foundation. One of understanding and sense, because it's only when we remove layers of ignorance that we can experience the lightbulb moment.

"IN ORDER TO LEARN SOMETHING NEW, ONE MUST QUESTION WHAT IT IS THEY "THINK" THEY ALREADY KNOW."

Unknown

# A note...

"THESE NOTES WERE ORIGINALLY THE BASIS OF A PRESENTATION FOR WHOLESALE INVESTOR'S 2019 EMERGENCE EVENT, HOWEVER, AS I BEGAN TO ELABORATE ON THE IDEAS, I REALIZED MY 30-MINUTE PRESENTATION WOULD BLOW OUT TO AROUND 3 HOURS. WHILST I HAVE BEEN DESCRIBED AS ENTERTAINING ON STAGE: I DON'T THINK ANY SANE HUMAN WOULD WANT TO LISTEN TO ME LECTURE FOR 3HRS."

Aleksandar Svetski

Welcome to the first publication of The Bitcoin Times. This special edition was inspired by three, mildly excessive rants, from our Chief editor: two having occurred at 3am in the morning, and another whilst driving and dictating to one Chantelle de la Rey frantically tapping away on the phone, taking notes.

The team at Amber decided to transform all that content into one broad (but concise),

digestible and informative publication, aptly entitled as the first edition of "The Bitcoin Times".

In the pages that follow, you'll find the important information that brings the key elements of the Bitcoin story together, and by the time you finish; you'll understand the premise behind the "shock" headline, and why, if you're an investor, entrepreneur, fund manager or human of any sort - you

should be taking a serious look into how you can participate in both Bitcoin and Lightning. We don't expect everyone to get as excited about all this as we are, but do anticipate this will most likely be for the benefit of:

- The skeptics
- The curious
- The die hard stubborn minority (aka: Hodlers of Last Resort)

So we dedicate this to you all.

We hope you get a lot out of it, that it challenges some of your more unfounded biases and beliefs, reinforces those that make sense, and helps you emerge on the other end with a broader perspective.

**The Bitcoin Times  
Editorial Team**





# Breaking The Blockchain

“I MUST BREAK YOU.”



# Blockchain Doesn't Work

About halfway through a few of last year’s talks, I presented what I called “the new formula”.

A formula, that if dismissed as an experiment, and allowed to grow large enough; would lay the foundation for a new form of global collaboration, consensus, value storage and transfer - but only if we take all the elements in combination!

Networks	Game Theory and Mechanism design	Cryptography
Proof of Work/Byzantine Fault Tolerance	Social Engineering/ Psychology	Computer science
Decentralization/ Distributed Computing	Economics Incentive and Disincentives	Data Structure (Block-chain)

This formula, this recipe would come to yield something that is:

- Technically and socially secure
- Natively Digital and Globally distributed
- Shut down and censorship resistant
- Practically immutable

And as a result of maintaining the sanctity of the above attributes, this formula would also produce something that was, relatively speaking; slow, very expensive to run, and limited in “direct” scope (much like the internet - the only thing the actual internet can do is route packets of “dumb” data).

What do I mean by direct scope?

Well - it’s the number of things this formula can and should be used for, and that includes:

- Verifiable Digital Scarcity
- A Secure, unconfiscatable Monetary Unit
- A Self Sovereign, Digital Store of value, and
- A Global, Immutable, Digital Settlement Network

But here’s the kicker...

*What we can then build with the above, and on top of the above - is endless.*

Much like language, and the internet. Simple rules (i.e.; protocols) create a solid foundation. This gives you the opportunity to build infinite complexity on top.



# SO WHERE DID BLOCKCHAIN GO WRONG?

In short: A complete lack of contextual understanding - both on a Macro and Micro level.

But let's explore 3 key points:

- Context (Scrambled Eggs)
- Focus
- Overkill (Rube Goldberg)



## #1 Context

First of all, what I like to call “the scrambled eggs theory”.

The “blockchain” ingredient on its own does NOT give you any of the attributes we discussed earlier.

Security and immutability are not some inherent traits that magically appear “thanks to Blockchain”.

Security is a function of cost, and comes as a result of all of those ingredients combined.

In fact, anyone who tells you otherwise, has probably convinced themselves that a great cake is made with only one ingredient, e.g: Eggs.

And that they could make you a “better” cake, if they whisked the eggs much faster.

The reality is they’re not selling you cake; they’re selling you scrambled eggs.

I’m sorry - but that’s not how things work.

Taking the one ingredient out of context, does not yield the same result.

## #2 Focus

The innovation here is autonomous consensus!

Removing intermediaries means just that. If it must be run by some entity or ‘trusted’ institution, it just reinforces its inherent uselessness. There is ZERO reason to use a blockchain if someone is managing it.

It’s a much more practical approach to just build a tech product that solves the problem - there is NO NEED to slow it down by creating excess redundancy, especially when there is no actual disintermediation of a managing party!

You end up with the **worst of both worlds**.

## #3 Overkill

You could be in the other camp that says:

“WE AGREE BLOCKCHAIN IS THAT ENTIRE RECIPE, WE JUST USE THE TERM FOR SHORTHAND. WE JUST BELIEVE IT SHOULD BE USED EVERYWHERE”.

I’m here to tell you that taking the entire recipe and applying it to anything other than the four “direct applications” I mentioned above is complete overkill. There is nothing as critical to the function of society as money or value transfer (as I’ll explain later), that could justify or require such an expensive method of disintermediating central authorities.

I mean - the very essence of ‘bad acting’ or ‘stealing’ is related to money (or value). A major reason why the institutions we trust to manage money exist in the first place, is that maintaining some form of integrity in the money we use to represent our labor is the

foundation of our ability to cooperate as a species.

*Bitcoin is simply a better way to do this - and places that guarantee of integrity into code, backed by math, and agreed to via broad participatory consensus.*

So to sum up, we really only have two situations when it comes to Blockchain.

(summed up by my sophisticated chart below)

a. Blockchain Alone

If we take one ingredient out of the recipe, or even just combine it a couple of the others, for example the distributed computing part (DLT as it’s now being touted as), it’s a complete waste of time and the fact that it must be run by some consortium or trusted institution just reinforces its inherent uselessness.

b. The entire recipe

On the other hand, for anything other than what I described above, i.e.; Money or a settlement network; it’s a Rube-Goldberg machine. It’s too expensive, and if we needed that

level of validation for everything we do as a society, then nothing would function anyway.

People, groups, companies, entrepreneurs, etc are generally trustworthy and doing the right thing most of the time. **We don’t need “everything on a blockchain”.**

The issue lies with groups or institutions that have disproportionate power, that have abused that power and that have very little (or no) skin in the game, and whilst there are less of those in number; they create distortions in society due to their size and ability to tamper with the core resource for human collaboration.

A network such as Bitcoin, that reinvents, codifies and liberates something as important as money (like the internet did for information/communication) changes the game for the better by re-introducing symmetry. But it’s expensive, and as I’ve stated, there is nothing else as mission-critical in the world that warrants the application of this formula to be successful.

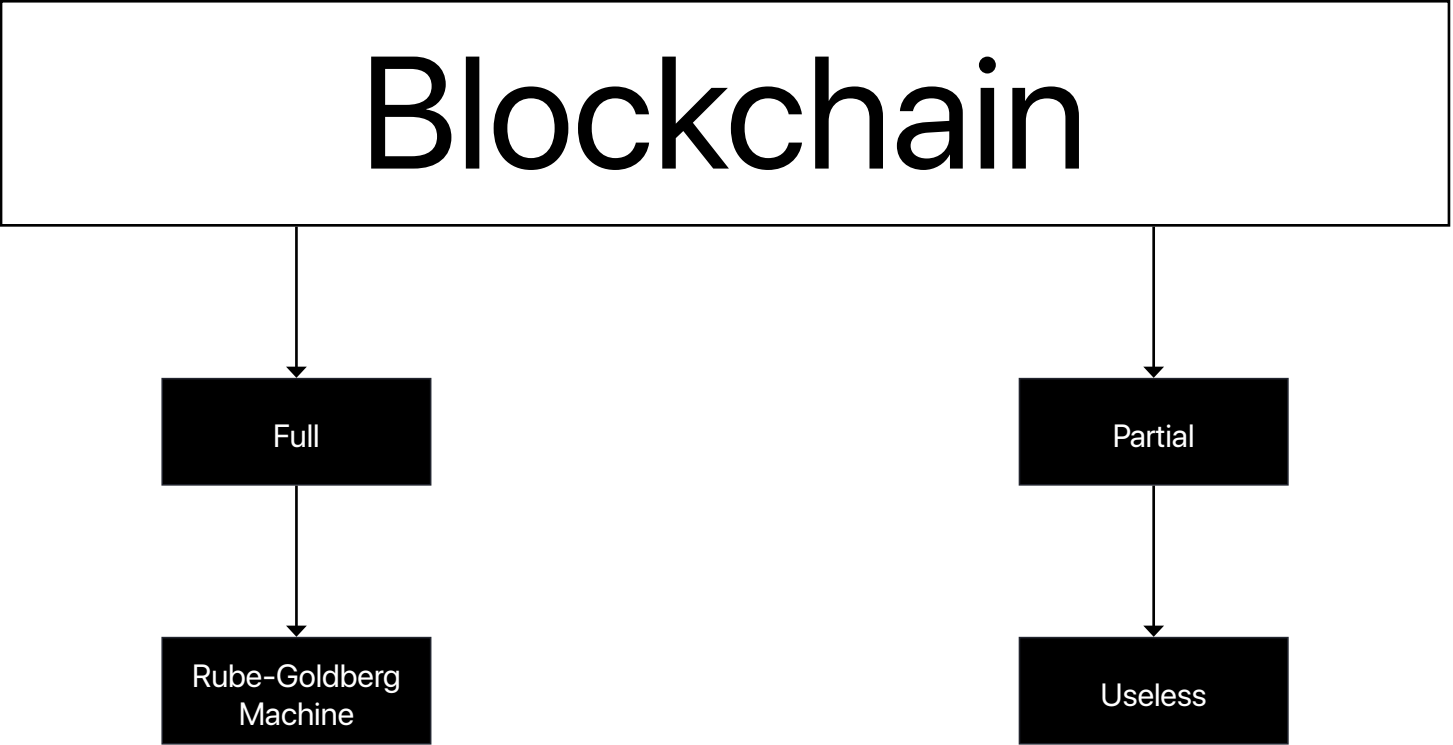


Figure 2

# Blockchain’s broken promise

The promise of blockchains, that would solve all the world problems came in the form of TWO key attributes:

- Security
- Immutability

That was it. Game. Set. Match. Let’s now use it everywhere!

The problem with this conjecture, as we established above, is that blockchains are not mysteriously endowed with these attributes because of their unique technical architecture. In fact, there is NOTHING unique about blockchain architecture. It’s just chunks of data, segmented, and chronologically connected –

and these days supposedly across multiple servers (in the case of the new buzzword: DLT).

Let me be clear. This does NOT give you anything that’s secure.

**Security and Immutability are a derivative of COST.**

And cost only comes from combining ALL the ingredients in the recipe (as discussed earlier).

Bitcoin is different.

**Why?**

Bitcoin is the most secure, public, digital network we have – not because it’s “built on a

blockchain”, but because it combines that form of database architecture (I’ll call it that, because that’s what it is), with a robust, game-theoretically sound economic model, with a well thought out incentive and disincentive mechanism, and Proof of Work, which solves the Byzantine generals problem in a distributed (or decentralized) system and introduces the game theory.

In other words; Bitcoin is secure and immutable BECAUSE it has a currency baked into the protocol, that is priced by the free market, where its value is inextricably linked to the security of the network by incentivizing each of the

participants of the network (whether validators, judges, users, etc) economically.

It’s in everyone’s self (and therefore collective) interest to maintain the integrity of the ledger (micro) and network (macro).

It is probabilistically sound, and becomes more-so with time – this means it’s lindy compatible and is the most robust form of system you can have.

That’s the innovation – an autonomous network, that’s made up of participants at multiple layers, all with skin in the game.

Not “blockchain” or “DLT”.

## The Limestone Analogy

When people get up and begin to talk to me about how they’re going to use the blockchain to solve supply chain, or whatever other (mostly ridiculous) idea they have, it reminds of someone who just discovered that limestone aggregate in concrete makes for better strength and better overall properties in concrete; so they then apply it to everything else:

- They put some limestone in their green smoothie
- On their avocado and toast
- In their latte

- As a back rub on their partner’s skin

And even as fuel in their car

**Why?**

Because of course: it makes everything better!

It’s preposterous.

And it can only come from people who have a thin veneer of an ideology that they’ve adopted, without either being able to understand, or even bother to understand what’s actually going on.





# Bitcoin's superpower: Immutability

**IMMUTABLE = RESISTANT TO CHANGE.**

To go 'back in time' and change one transaction on the Bitcoin Ledger, it would not only require you to accumulate enough mining equipment (capital cost), but also expend enough power to win the proof of work game and validate the blocks from that point forward to today.

This is not only financially insane, but almost physically impossible.

**Why?**

It's the cost of validating transactions and maintaining the network of distributed but consistent ledgers that gives something like Bitcoin its immutability.

For someone to change something on this network

in the past, it would cost billions.

In fact, it would require something like 3 trillion (with a "T") modern, high-end laptops worth of computing power just to change ONE transaction on Bitcoin. That is the definition of immutable.

It's this "Proof of Work" that brings the cost into Bitcoin and forms the basis of the game theory.

Proof of work is the bridge between the digital and the real world, and the sunk cost of capital and work done is what makes it immutable. People hear words like "cryptography" or "encryption" or "hashing" together with terms such as "blockchain" and mistakenly assume that it's somehow got something to do with immutability. They also hear that "mining uses lots of electricity" and "is bad

for the environment" from those with an ineptitude to math, probability or game theory, and by not understanding the broader recipe at work here; they think that they can discard "that expensive proof of work" part, and keep the nice, fluffy, inexpensive software [blockchain] part.

But as we've established; there's a problem with that line of thought. If there is no cost to change something; then we're back where we started, i.e.; taking someone's word that this is the way it is, which as I stated works in 99.9% of cases, (i.e.; if you can't trust your family member or co-worker; you've got bigger problems - putting it on a blockchain is not going to solve it), but NOT when you're driving the narrative of immutability, sovereignty, or security.

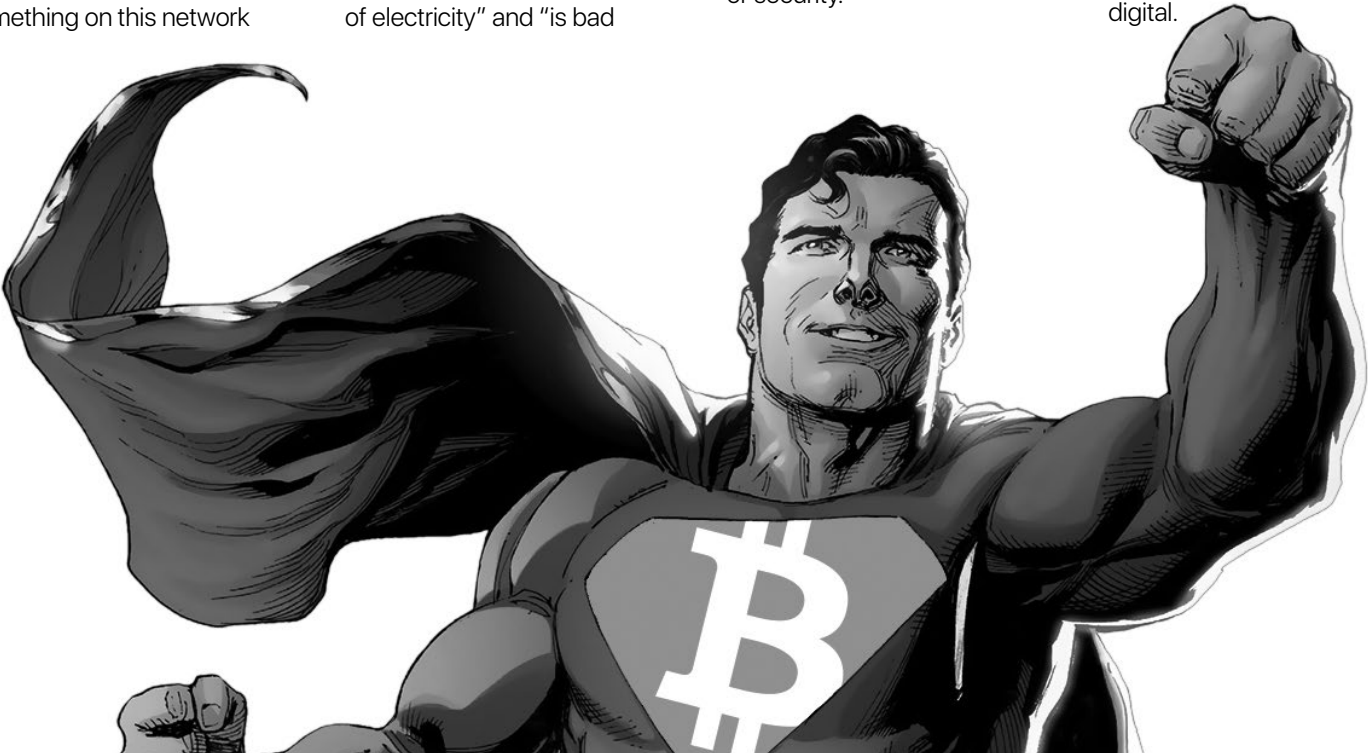
So I'll say it again.

Security and Immutability are functions of cost.

Proof of work is the part that looped it all together and helped us, for the first time in history; associate a real world cost to an ephemeral, fungible, digital object.

Furthermore; because proof of work is a compounding phenomenon; it only gets stronger and more immutable with time. This is at the core of why people say "Bitcoin is anti-fragile". It benefits from the passage of time (lindy effect).

Bitcoin is the first time we've had a digital good, that functions like something physical. And because it's bound by math, it's able to be verifiably scarce, whilst maintaining the scalability that only comes with something that is natively digital.



## Banana example:

If I give you a banana in the real world; I no longer have it. If I "send" you a digital banana, all I did was copy it and we've now both got a record of it. If I send you some Bitcoin, I no longer have it - just like the banana in real life; it's now yours. I didn't create a new one, I didn't copy it; and I can't reverse it, I can't go back in time. The only way I can get it back is if you send it back - but that's a new, totally separate transaction (forward in time).

Bitcoin is the first (and probably last) network of its kind that's reached this status.

**Why?**

A big part of it was luck and timing.

Bitcoin got: "This is bullshit" for 5yrs, before anyone took it even remotely seriously. For someone to catch up and replicate this level of infrastructure, they'll need something like \$100bn, and HOPE that nobody realises what they're doing and attempts to compete - because it will then cost each player more than \$100bn.

The result of all this would only reinforce Bitcoin's importance and drive its value higher, and create this self-reinforcing feedback loop which asymptotically approaches a cost of infinite.

Bitcoin was a once-in-a-lifetime thing. Andreas said it best:

**Andreas Antonopoulos**

People take it seriously now.

If you try to replicate this experiment again, you'll be noticed, you'll be attacked and by the time you've made any headway, Bitcoin will have progressed further.

Think about it. This network grew from \$0 to \$100bn's worth of value stored on it; along with infrastructure built around it - with NO marketing budget. Tell me the last time something like that occurred? The closest analogy is the internet; except this

time "measurable value" is associated with the network; so it's a little more contentious.

This also explains why all the others have had to raise non-dilutive capital rounds and sell the "fat protocol" thesis in order to make noise and get some attention. I guess everyone wants to "own" this; like the telco's wanted to own the internet. The reality is that public networks so far down the societal stack are owned by the collective; which is what gives them power. Time and volume

of participants are on their side.

Every day that Bitcoin remains operational, it gets stronger, more secure, more immutable, more robust, more trusted and more valuable.

In fact, it's Lindy effect seems to be accelerating - which is something we've not seen before.

For every day a competitor grows, Bitcoin grows by multiples (or magnitudes) more.

Network effects are

runaway trains, and Bitcoin's immutable proof of work network has taken off and will be practically impossible to catch up with.

This is why I believe trillions worth of economic activity will anchor to it. The same way as the internet was the most robust way to route information across the new digital world, Bitcoin is the most robust, global network upon which money can live; and via which it can be settled and routed\*.

\*should the value be large enough to justify routing directly on it.



# Immutability as a Service



“Bitcoin provides immutability as a service”.

There are not many applications in the world that need immutability, and perhaps only a couple that need to build immutability as part of their core stack. It’s just too expensive!

Now...If we view immutability as a service – one that any application in the world can “anchor” or connect to, then we begin to reframe how we view Bitcoin, i.e.; as a broader network that settles transactions or states with value associated to them.

An example here will help.

There is NO reason (or very little reason) that any company (tech or otherwise) today needs to buy, host and maintain

its own server infrastructure. It’s costly and it makes up only a fraction of what matters in their actual business. So they use a cloud-based service such as AWS.

You’ll also note that because of the economies of scale; there are only three real options:

- AWS
- Azure
- Google

Why? They got in early and they poured billions upon billions into it.

Immutability is similar (but also different).

**Similar** because the infrastructure required to make something truly

digitally immutable is extraordinary (perhaps even more than all of the combined infrastructure that AMZN, MSFT and GOOG operate), and it only makes sense that people will anchor to it as and *when they need to*.

**Different** because it’s not something that can be run by one or a few parties. A concept like immutability (and things that inherently need it, i.e.; money) are only so if broadly owned. In other words; the more distributed and decentralized the architecture and higher the number the owners, validators and nodes, the more robust, costly and therefore immutable it is. Should one (or a few) entities manage all of it; it then undermines the value proposition and defeats the entire purpose.

## The Immutable Network

Immutability as a service is what will bring more economic activity to the Bitcoin network in the long run, again; similar to the internet. The internet


started off as a way to connect computers at a distance, and over time (as more people used and trusted it) it evolved into this new communication


network that provides data / packet routing as a service. We built everything on top – and the innovation has been extraordinary.


The next step is baking monetary value into a protocol owned by the collective, whose core tenet is absolute digital immutability. A network where you can’t turn back time (like in the real world).

All of the economic value from applications that require this feature, along with any broader monetary / banking / capital or financial applications that require an absolute

guarantee of the following key functions:

  
**Send**

  
**Store**

  
**Receive**

Will accrue on it.

And as I’ve stated ad-nauseum, the more economic activity that occurs

on and on top of the Bitcoin network, the more immutable and secure it will become. It’s compounding, it is self reinforcing, it has already hit a critical mass, and it’s now a runaway train.



## Other consensus mechanisms

There are, and there will continue to be lots of other consensus mechanisms created. Some that might work; most that definitely won’t.

They may be used on their own networks, for applications that are either private, proprietary; or for applications that don’t require an absolute guarantee of immutability and security.

I personally don’t believe any money-related or high value applications will run on their own networks (except in vain over the next as this space evolves) because networks, especially those where the broad population participate, generally converge to unity.

It’s why we largely have one internet; one set of protocols for email; why we all use AC power; why, within a particular jurisdiction; the network of language converges to one, and similarly so with money (there is one USD in USA, likewise one AUD in AUS). In fact – we see this as the world’s become more “global”:

English hit it’s critical mass, attained the primary network effect and it’s now more functional to speak English in most places around the world.

Aside from converging to unity due to efficiency and practicality, the world can probably only sustain ONE absolute, immutable, uncensorable, secure proof of work chain – because it’s expensive!

- This chain is likely (at this stage at least) to be Bitcoin.
- If we had to run proof of work for everything; we’d destroy the planet (plus it assumes nobody trusts each other for anything, which is a bigger problem anyway), and
- a. If someone wants to use it as a service; they’re going to go to the one that’s got the highest guarantee. That in itself will increase that network’s guarantee; leading to that self-reinforcing recursive effect I described earlier.
  - b. Furthermore; if you do have a novel, “light” consensus mechanism, that’s fast – you could in future anchor it to something like Bitcoin as and when you need to substantiate any claim or make a final judgement.

It’s this line of logic that leads me to believe most of the economic value will be swallowed up by the Bitcoin Network over the long term, not to mention the new concepts and innovations that will emerge using the ingredients of immutability and verification – like how facebook and instagram emerged from the internet.





The new ***“Monetary Operating System”***

# Bitcoin is a new “Monetary Network”, not a “Payments Technology”.

Bitcoin is the first time we’ve combined Money as a unit, with Money as a Network, into one thing.

More on this here:

## **“Why Bitcoin Matters”**

And because it’s so different, it’s hard to wrap our heads around it.

The problem is further compounded by the fact that nobody really understands money, but most people get payments (which is easy: move money), especially because it’s been handled digitally for the last 20 – 30yrs now.

To understand this better; we’ll need to

understand Bitcoin’s real innovation, and in the process separate money from payments.

As we’ve established, Immutability is derivative of COST. It’s this cost of validating transactions and maintaining the network of distributed but consistent ledgers that gives something like Bitcoin its immutability.

Bitcoin’s true innovation was an autonomous network that can establish the authenticity and validity of the state of the broadly distributed ledger.

The ONLY advantage of using this type of costly infrastructure is for actions

that require a large degree of trust and assurance, those that should never fail and those that should not be easily reversed. There are a limited set of these, i.e. every transaction / or state change that happens in the world does NOT need this.

The world works pretty fine right now.

Could we make it better by stamping a “net state” to something immutable once a week / once a month?

Yes – definitely. But every transaction? No way. It’s just overkill.

Bitcoin is the most secure / immutable network that exists, NOT because of

its “blockchain”, but because of its elaborate and expensive authentication mechanism. Your laptop has the ability to process hundreds of thousands of transactions a minute. That process is trivial. Payments is trivial.

Autonomous, distributed validation is the innovation. And this is where people go astray.

People don’t ‘get’ bitcoin because they perceive it as some form of payments technology, or some “blockchain” mechanism (they don’t really understand) for moving funny internet money (which they also don’t understand). That’s not what Bitcoin is.

Bitcoin is a complete reinvention of “money” – the world’s oldest social contract and society’s most fundamental layer. To understand its impact, you need to have a broad understanding of both networks and money. The problem is, most people don’t. In fact, nobody really understands what money is, because it’s not taught anywhere. Few can define it, whether they’re in banking, finance, technology, fintech, capital markets, and especially payments – so they apply their biases to it, and completely miss the point.

It’s like discussing the structure of the Egyptian pyramids with your pet goldfish.

The goldfish simply lacks the context.

Money requires an understanding of our evolution as a species, anthropology, biology, social engineering, psychology, game theory and what I like to call “the societal stack.” Discussing this is well outside the scope of this paper, but I’ll touch on an area which I hope will give you a reference point, the societal stack, in a subsequent section.

The complexity of network dynamics doesn’t make the job of understanding Bitcoin any easier. I will touch on this further in a dedicated section – but suffice it to say networks are just as foreign to our intuitive understanding of the world as the pyramids are to the goldfish – the track record of the experts adds weight to this.

Back to payments VS money.

Bitcoin is not a “payments technology”. It’s fundamentally a reinvention of money. Like the motor vehicle was a reinvention of transport – not a better horse and cart. Same as the internet. It reinvented the fabric upon which we communicate. It reinvented the way information is transported. It did not push more, richer or smarter “data” through the phone networks infrastructure. It used that infrastructure as physical onramps; but the internet is not the hardware – it’s so much larger.

That’s why it swallowed them up and is the foundation upon which the majority of today’s society operates. And what’s more, the internet is only picking up speed. Bitcoin is where the internet was in the late 80s. Still largely misunderstood. People are still arguing about speed of payments! They don’t realise that “payments” as we know them today will completely transform. The same way we’re no longer talking about the quality of the phone call and number of phone calls this “internet thing” will support, we will see new conversations emerge for what can be done on Bitcoin.

The world is changing. The internet was only the beginning....Bitcoin is the next chapter.



# Bitcoin and the Internet: A comparison.

Understanding where economic activity congregates is hard.

It's hard because people are blinded by their biases, their egos get in the way and instead of focusing on what can be built on top (where the real opportunity is) they're focusing on owning the network or layer.

But here's a revelation for you:

***What made the internet special is that the phone companies didn't "own" it.***

The reason AOL failed was that it was the complex, managed, corporate solution, with all the bells and whistles, that assumed what people wanted in this new "information superhighway".

They learnt the hard way, that no amount of market data or corporate experience and foresight can predict what a new communication modality (for the commons) would become - because just as free markets always trump centrally governed ones; open networks are a requirement for free speech and that's exactly where ***all the innovation*** goes.

Now; AoL wasn't the worst of them.

At least they were trying to reimagine how this new communication network might function - and the things it may enable us to do.

The phone companies - they were the funny ones.

They controlled all form of non-face to face communication at that point, and their question about the internet was:

***"How many phone calls will this internet thing do?"***

(Sound familiar???)

They assumed what the internet was going to be used for (i.e.; phone calls and video conferencing), based upon their current biases and problem sets. This is low level skeuomorphic thinking and design.

The internet on the other hand assumed NOTHING, and it won because it had the basic, robust, open, building blocks upon which all the innovation actually occurred.

The same thing will happen with Bitcoin (or if I steal a term from Andreas - The Internet of Money\*\*)

**Why?**

Because strong, simple stable foundations will always work best.

That's just physics.

"FIRST THEY IGNORE YOU, THEN THEY LAUGH AT YOU, THEN THEY FIGHT YOU, THEN YOU WIN"

**Ghandi**

And if we look at the internet; the story is no different:

1. The phone companies first dismissed it, because they measured it's capability through the same lens via which they measured themselves (# of phone calls; quality of phone call).
2. When they saw it taking off; they asked "How do we buy this internet thing"
3. When they realized they couldn't do that, they tried to replicate it, they built AoL
4. And then the internet won...and here we are - those phone companies have merely become on-ramps and off-ramps for the internet - something that's larger than all of them combined.

***They wanted to own it and have it dependent on them; but they're now dependent on it.***

All of their services now run on the internet. So not only did the internet win, but an entire infrastructure inversion took place!

And if that wasn't enough - this inversion paved the way for new innovation and new opportunities. Opportunities the phone companies could not capitalize on, and as a result; opened the door for new, global giants to emerge.

Giants, who built ***on*** the internet.

I don't know about you, but there's an eerie similarity to Bitcoin (as a money and monetary network) and the current financial institutions.

And whilst I know it sounds far fetched to think that today's financial institutions will one day be on ramps for Bitcoin; remember that 30yrs ago it was also completely insane to think that the phone companies would merely be connection points for the internet.

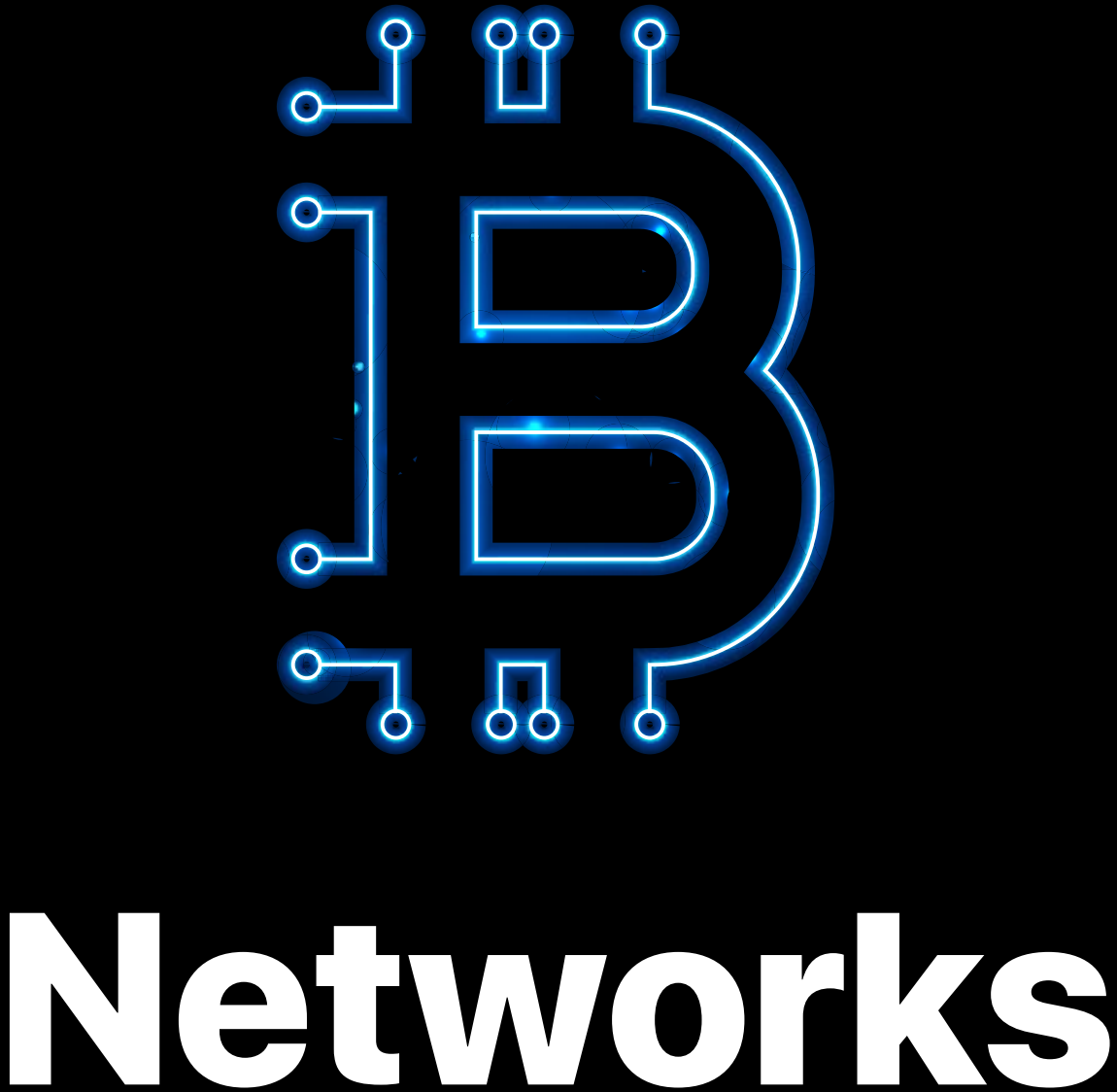
This is happening - right now.

Whilst the silly people are trying to reinvent the wheel, The smart people are building on Bitcoin.

The Dorsey's, Stark's, Lopp's, Rochard's of the world get it.

This is the future.

Instant, unstoppable routing of ***value***. Not just information.





# Inversion & Opportunity

This kind of inversion happens once in a lifetime.

It's like getting on the ground floor of Amazon in 1995. Bitcoin is the opportunity that everyone is looking for - and whilst it's staring us right in the face, we're all running around yelling "blockchain", trying to fit circles into squares.

What you can't replicate about Bitcoin is that it's an uncensorable, unstoppable monetary network, whose growth compounds with every unit of value that's stored on there.

Bitcoin's long term future doesn't lie in it just being a "speculative asset", but lies in its network being used as the common fabric upon which value transfer occurs.

If you can anchor into that fabric, the same way as we do with the internet for information packets to be routed, then you can get all the benefits of a decentralised, immutable, secure financial network, without all the downsides, e.g; slow speed (and longer term; volatility).

This will all happen in layers - and the layers are where all the commercial opportunity exists. Not in trying to build and "sell" a new version of bitcoin.

That might last for a while, and because nobody really understands anything in this space, people will let their greed get the better of them, and buy into pointless narratives to make the "next bitcoin" or the next pot of gold.

Good luck with that. Good luck with your information superhighway, that nobody is going to use, and that you'll need to maintain.

We're building on the living, breathing, autonomous network which started off worth nothing, and is today securely storing almost \$100bn worth.

The lindy effect will only continue to compound here, and its self-reinforcing effect will only get stronger. The result is more capital held, which in turn strengthens not only the trust in the network, but the incentive for more validators to expend real world cost to maintain and verify this ledger - which in turn makes it more robust, more decentralised, more secure and more immutable - and so it continues.

I scratch my head and wonder why one would want to compete with that? These not so intelligent, short sighted and non-creative people are all wasting time trying to reinvent the wheel, while the smart ones are out there building the car. They're putting the wheel to use.

It's the story of the internet all over again.

Whilst AOL set out to rebuild the internet in their eyes, Google and Hotmail took those building blocks, recognised it was the most robust network to build on, then created useful applications which in turn made the internet more useful - and in the process, changed the world.

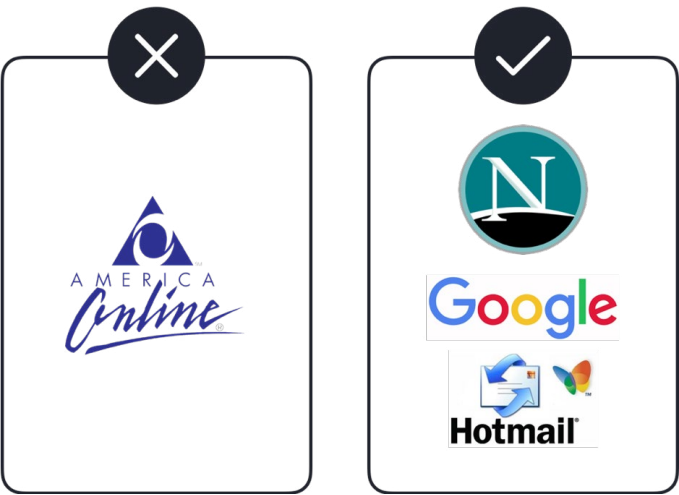


Figure 3

Today, we have a monetary network that has all the ingredients upon which we can build a secure, modern, digital financial infrastructure.

The smart people, the true visionaries, know that; and are doing just that.

The deluded / greedy / and those with a veneer of an understanding, who've bought into an ideology or concepts they don't understand will run around getting money from people for a while, but it's a game that's losing steam.

The future is being built here, on Bitcoin, with Lightning.

Blockchains and DLTs are hub caps applied in vain by those trying to make a faster carriage.

Bitcoin is the motor vehicle.

And although the motor vehicle was initially used by crooks, was slow and really hard to use on roads built for horses; it ultimately drove the transformation of society and transport was built around it.

I could pull similarities, metaphors and analogies all day - I think you get the point.

# Network Fundamentals

Networks are another inherently non-intuitive area for humans to grasp. Throughout history, we've been extraordinarily poor at predicting the growth of networks; especially those which become a public commons, such as electricity, the telephone, the internet and now Bitcoin.

"WHEN THE PARIS EXHIBITION [OF 1878] CLOSES, ELECTRIC LIGHT WILL CLOSE WITH IT AND NO MORE WILL BE HEARD OF IT."

Erasmus Wilson, Oxford professor

"THE AMERICANS HAVE NEED OF THE TELEPHONE, BUT WE DO NOT. WE HAVE PLENTY OF MESSENGER BOYS."

Sir William Preece, Chief Engineer, British Post Office, 1878

## And my favourite:

"THE GROWTH OF THE INTERNET WILL SLOW DRASTICALLY, AS THE FLAW IN 'METCALFE'S LAW' BECOMES APPARENT: MOST PEOPLE HAVE NOTHING TO SAY TO EACH OTHER! BY 2005 OR SO, IT WILL BECOME CLEAR THAT THE INTERNET'S IMPACT ON THE ECONOMY HAS BEEN NO GREATER THAN THE FAX MACHINE'S."

Paul Krugman, winner of the Nobel Prize in Economics, wrote in 1998

### Why?

How do the so-called "experts" get it sooo wrong?

There's a number of reasons; a lot to do with biases, and a big one to do with how we've evolved.

I delve deeper into this in the following article:

[Homo-sapiens Evolution Money Bitcoin](#)

Although the cliff notes are as follows: Humans evolved in a world defined by our more linear sensory perceptions.

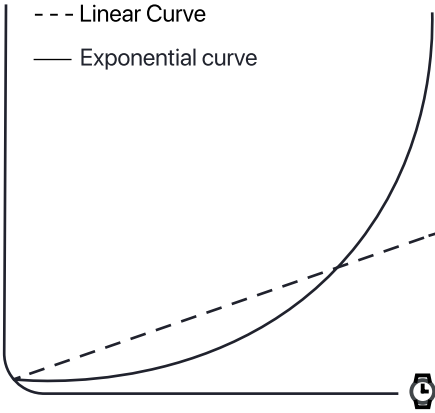
Growing up in the Savanna; you had to know roughly how long it would take you to run x-distance in order to steal some food, protect your family or outrun a predator.

As a result, we're great at estimating how far 30 linear steps will take us (roughly 30m).

30 exponential steps is a completely different story. That's 1bn metres, which is a distance we can't easily fathom - Peter Diamandis and Ray Kurzweil really popularised both this term, and the example.

When we encounter something that moves exponentially or via some network effect, we find it hard to make accurate, intuitive estimates. We generally project linearly, whether over or underestimating.

Note: network effects are similar in nature to exponential, just not as pronounced - the key takeaway is that in the early stages, their progress is imperceptible. Network growth seems to move slow as the initial base of connections is established. But..once it hits a critical mass (inflection point); the momentum to continue is almost unstoppable; barring a catastrophic failure of the network itself.



This inflection point is probably not a "point". It's more like a period - and without hindsight; it's impossible to measure and therefore forecast, but as a rule of thumb, or a heuristic; you could probably bet that it's the point where people give up and think it's not going to work (because of the lack of surface level results) that a functional network which has continued growing it's node-base; takes off.

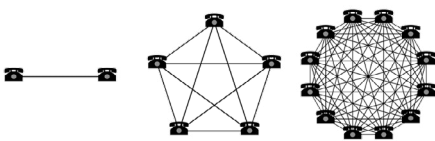
Figure 4 above is not meant to be mathematically accurate, but designed to illustrate the following point:

We overestimate in the short term ("Bitcoin will take over the world")

We underestimate in the long term ("Bitcoin is dead..it's been 10yrs")

Note: exponential and quadratic curves look similar in those earlier stages - but they are different.

The following diagram and example will help you better understand how networks (also known as quadratic growth) can really accelerate beyond a certain point: (next page)





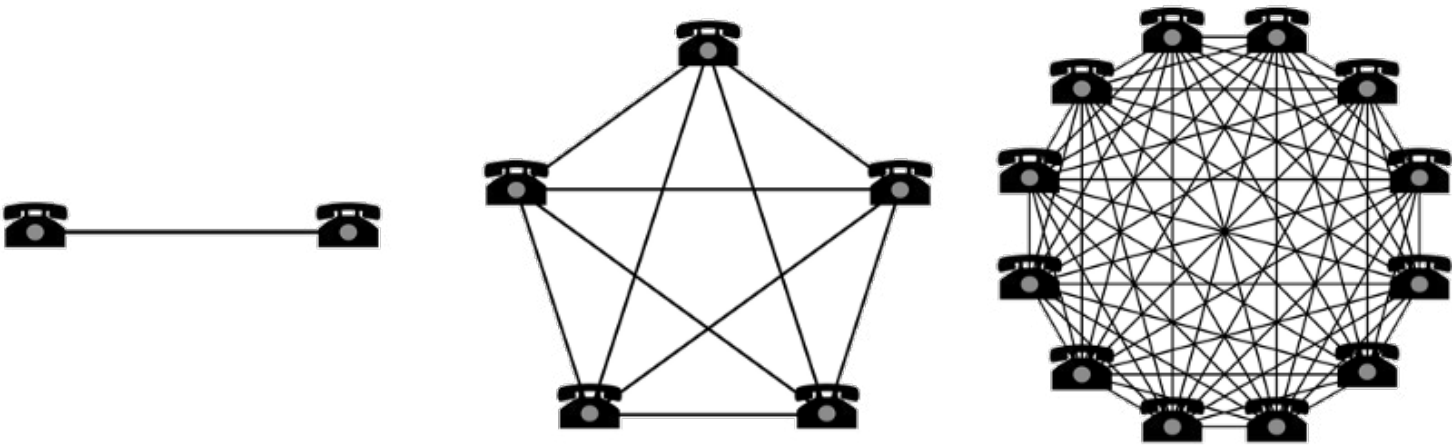


Figure 5

X	1	2	10	100
Y	0	1	90	9900

That’s a lot of connections – and by the time you get somewhere between 1000 – 10,000, it’s taken off.

Lightning has currently around 3500 visible nodes (as of 18th Feb, 2019), and likely the same amount (if not more) that are private.

Something to think about.

# Dumb VS Smart

There is another reason why the internet won out as the primary communications network, and not the private consortiums / networks like AOL or the telecommunications companies who dominated the communications infrastructure for 100yrs prior.

It’s because the base layer needs to be “dumb” – or in other words basic and robust for it to work best.

The internet was built on a few basic packet switching and routing protocols, which did what they did very simply but very well – and created the most robust communications network our species has ever seen.

As a result, it incentivised the rest of the world to build on top of it. Why?

Because when you have a solid, robust foundation, you can abstract any function and you can deliver services which can later interact and integrate with other services. This cumulative effect is another function of how

networks (such as the internet, and now Bitcoin) accelerate, further entrench themselves and dominate.

**All of the economic activity will go to where it can maximise its yield and the more complex and all-inclusive you try to make a foundational network (especially something as broad as communication or money), the less room there is for free market / open innovation, AND, the more of a threat there is from competing networks to develop something that’s more basic and robust that the COLLECTIVE can build on top of.**

Blockchains are dead because they’re either useless or contain unnecessary complexity.

Their two major selling points; security and immutability are not some inherent, magical trait that emerges thanks to their technical architecture; or their segregation of data.

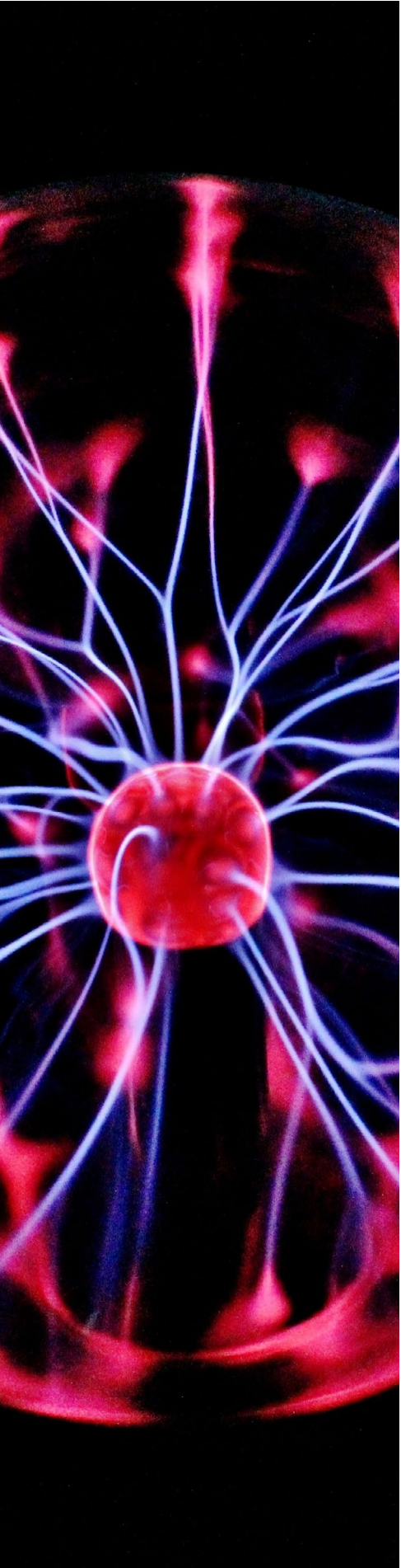
The only networks that have this are

open, public, game theoretically sound networks such as Bitcoin; and perhaps a few others, although Bitcoin has a significant advantage – and in the game of networks, when you have the lead combined with the serendipitous beginnings, the stubborn minority, the most infrastructure and the best minds working on it; the probabilities of catching up, let alone keeping up; fall exponentially.

I posit that it’s too late to catch bitcoin. At least this century. It’s time to double down on the bet and not wonder why you got left behind. And for those of you who think “no bank is ever going to use Bitcoin as a settlement layer”, just remember:

In the 90s, every bank was saying they would never do any form of banking on the internet.

Times change. And you can either play catch up, or you can lead.



# Investing in Networks

Another reason why Blockchain has and continues to fail is because its focus is on being a ‘proprietary technology’. There is no network effect in building private blockchains or “DLTs”.

That’s called incremental (or in a lot of cases; phantom) innovation. The real investment opportunity and innovation lies in the development of networks such as Airbnb, Uber, App Store, Facebook and the network which was the game changer for everyone; the Internet.

If you look at society you find that the sub-strata upon which everything is built is communication, information, language.

The first layer that sits on top of that is actually money. Most people don’t appreciate the importance money plays in the evolution of our species and our ability to build this thing called society.

I’ll touch on Money briefly in a dedicated section later so that you appreciate its gravity.

For now; suffice it to say it’s fundamental to the operation of everything in society, and is core to our ability to cooperate and collaborate as humans (Homo-sapiens specifically).

Currently the only digital monetary medium that is anti fragile, robust and secure with a truly scarce unit of account is Bitcoin. Is that not a network worth investing in or building on top of?

If you want to be an investor that invests in incremental innovation that will just be taken over tomorrow, you’ll be continually looking for the next best thing. The alternative is to use the Peter Thiel / Reid Hoffman approach: look for networks that are gaining moment, that have a dedicated,

stubborn minority, which despite bad press, continue to grow – and you’ll find the 1% which change the world.

As Mark Andreessen said years ago; “Software is eating the world” – and it still is. As an investor, you need to decide whether you want to be a part of the blockbuster world, or whether you want to be streaming in the new world.

Innovations that benefit from time and network growth only get stronger as more activity happens on them.

Email helped bring more activity to the internet, Lightning and simple multi-sig, time lock and “judge” smart contracts will help to further advance Bitcoin’s network effects.

The digital, “neo” banks are out there trying to put lipstick on a pig by making an old infrastructure more modern – and it’s difficult – it’s like trying to make a horse and carriage faster.

Messing around with legacy baking, whilst we have something like Bitcoin is madness.

Bitcoin is the only secure global digital settlement network upon which real digital and neo banks can be built with far greater integrity, complexity and transparency – and the same way we didn’t know what sort of applications were going to emerge by liberating information and communication with the internet, so too we have no idea the magnitude of changes and innovations that will emerge when we liberate money and value exchange in a digital world.

No – this is not an overnight transformation, but make no mistake about it; the next Amazon, Google and Netflix’s of the world are being built right now – on the next great, public, global network: Bitcoin.





# Lightning

*“Whilst ‘blockchain people’ are arguing about 1000 or 100k transactions per second, and in the process compromising the security and immutability of their networks; a Lightning-type network, anchored to something immutable like Bitcoin has the potential to do 10’s of billions of transactions per second and compromise NOTHING.”*

Aleksandar Svetski



# What is Lightning?

Giving it the explanation and time it deserves is out of the scope of this paper, but I'll attempt to give you enough of an understanding to go further down the rabbit hole with.

Imagine a network, where each of the participants are not only route ‘users’, but also route operators. Where every participant becomes a node, that strengthens and broadens the network for not only themselves, but for everybody using it.

The best analogy I can think of is the internet (once again). The internet really exploded, when we became not only ‘consumers of content’, but also creators and routers of this data and content.

Testament to this explosion is the company which arguably capitalized on this the most. Facebook is barely 15yrs old and is one of the largest in the world. It gave everyone a forum to consume, create and share content; in other words – everyone was a node that made Facebook more valuable (and not just in relation to its market cap).

What happens when you apply that same concept of read / write / route to money and payments? In short – it changes the game.

Whilst not entirely accurate: Bitcoin is like the internet (one transformed information, the other money) and Lightning is a little like Facebook in that it makes money a content type that everyone can collectively participate in. Money has never had that kind of fluidity. This is a high level of what Lightning represents.

BUT...You might say: “Wait a minute. Not everyone can route money. They’re not a bank! How can we trust them”? That’s where Bitcoin comes in.

Lightning is technically able to be

applied or “anchored” onto other networks, but its maximum utility comes from doing so on a network that gives the highest guarantee of immutability. That’s the entire point, and how we unlock Lightning’s potential.

If you can refer back to something that has prioritized security, stability, resistance to censorship and shutdown, then you can begin to really abstract and build financial complexity on top of it; without worrying about the potential of error, compromise, fraud or failure. Bitcoin + Lightning is where the future is at.

Lightning enables:

1. Instant Payments: Because we’re not worrying about block confirmation times, payment speed is measured in milliseconds to seconds. It’s truly peer to peer, and as fast as data can move.
2. Scale: When all participants are also nodes, you don’t get the congestion we have in today’s archaic, centralised payment networks. You get true scale; capable of millions to billions of transactions per second across the network. This blows away any high-speed blockchain or any other legacy payment rails by many orders of magnitude.
3. Low Cost: Non custodial micro payments (e.g: pay per action/ click) are truly possible at fractions of cents. This is foundation for the set of use cases yet to emerge
4. Security: By anchoring to a source of truth (aka; Bitcoin) with simple, robust “smart contracts” one can ensure the integrity of the second layer without recording them on chain (via a complex version of netting).



# How does Lightning Work?

Lightning is a second layer technology. By using the native smart-contract scripting language of a network (such as Bitcoin) to anchor or connect to, it's possible to create a secure second layer 'network' of participants who are able to process and route transactactions at high volume and high speed.

For example:

Avocado and Toast decide they want to transact. Lots of times. Instead of bothering everyone on the core network and having every single validator on the core network have to record their transactions, they decide to open up what's called a "payment channel". Think of it like putting some money on your transaction account.

They can then transact between each other, back and forth, as much as they want - each time netting off against the prior transaction. After a certain period of aggregating these transactions, and updating the final net state; they could choose to close out the channel by broadcasting the final, net result to the underlying network (e.g: Bitcoin) and settle.

It's important to note that this final, net entry can be closed out at any time by either party - without any trust or custodianship - by broadcasting the most recent version to the blockchain.

Closing a channel is also how the network deals with cases of attempted fraud or "bad acting". The last valid, signed set of transactions between both parties wins - and there are some incentive / disincentive rules that help to ensure it's in everyone's economic self-interest to do the right thing (i.e.; attempt to defraud the other user, but last signature shows otherwise, you lose the funds you committed to the channel).

This is all similar to how legal contracts function. One does not go to court every time a contract is made (that's analogous to doing 'everything on the blockchain'). Only in the event of non-cooperation is the court involved, and by making the transactions and scripts parsable and thus "anchoring" to the underlying network, these smart-contracts can be enforced and the result settled.



# The potential

A payment channel between two participants is just the beginning. It's a building block for a larger network. In fact, the network only forms when numerous payment channels join to form a web. In this way, two participants who are not directly connected can transact with each other.

Let's say Dingus wants to pay Pingus. He can still do it even if he doesn't have a direct connection (payment channel) with him, but as long as Wingus from earlier can connect them via a chain, i.e. route.

The exciting part is that as the network grows, you won't necessarily even need to set up a dedicated channel to send funds to a certain person. Instead, you will be able to send payment to someone using channels that you're already connected with. The system will automatically find the shortest route.

By creating an entire network of these two-party ledger entries, it's possible to find payments paths across the network

similar to how packets are routed on the internet.

As all the pieces of the puzzle come together, one starts to see the magnitude of this innovation.

This is how everything else in nature works, along with the functional systems of cooperation we've built throughout the millennia.

You abstract the small, you settle when you need to - whether that be at closure, or on disagreement.

In fact, it's a big part of how modern banking evolved (because it's more efficient).

The difference (and beauty) with Bitcoin is that you can't influence or manipulate it (remember: immutability as a service) so it will be the ultimate arbiter & settle as per the original rules.

It's time to move to a new model where the arbiter / settlement function is digital and owned by the commons, not by the few.



# The Future is on Lightning

What could the future hold?

Aside from the potential of doing billions of transactions per second (seeing as though speed is what everyone wants), and transforming payments and value transfer from things that happen at a time and place, to something that "streams" over time and space, perhaps something a little easier to imagine is the launch of a Bitcoin bank.

One where anyone, anywhere in the world could set up an account in seconds, and begin participating in global commerce.

Where all reserves are held and denominated in Bitcoin, on Bitcoin - and the organisation can be held 100% accountable because it's all transparent and able to be queried.

Could we open up the ability to lend, borrow, spend, save, trade and interact globally - without worrying about exchange rates, inflation and manipulation?

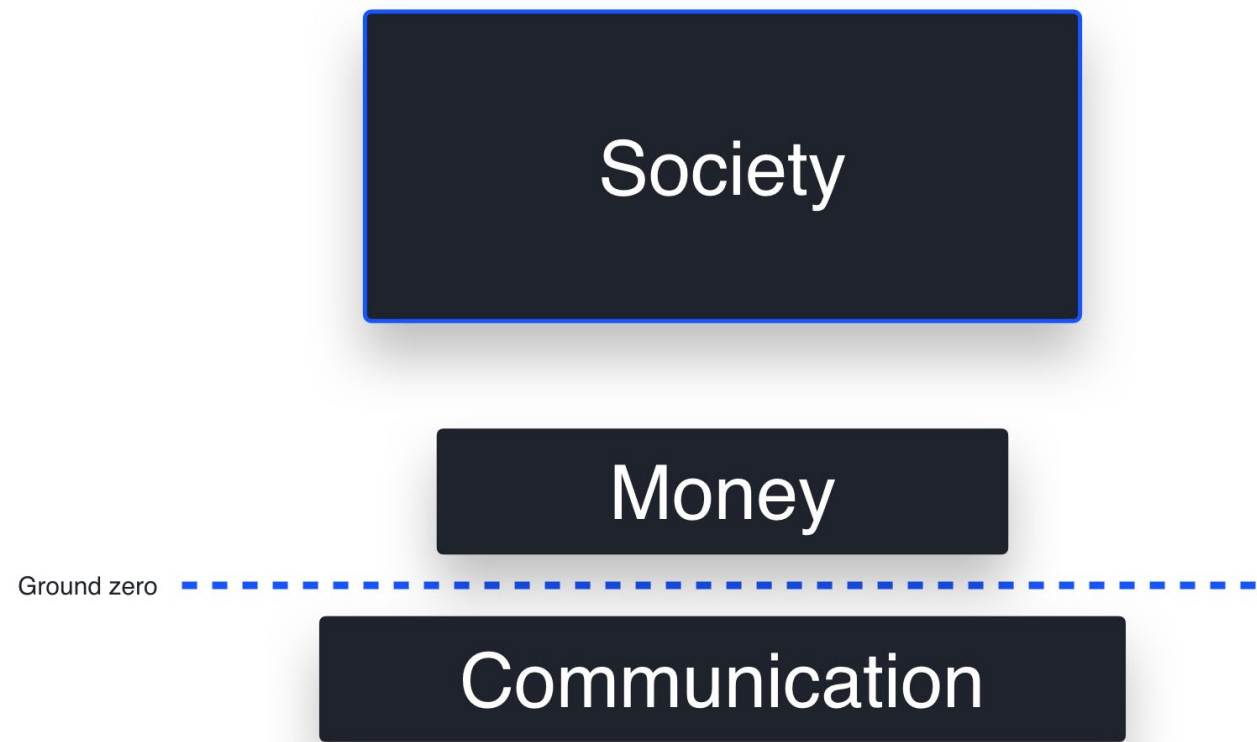
I don't know. Maybe.

Or maybe I'm thinking way too small. I don't know.

What I do know is that the real innovation is yet to come - and those innovations (like Facebook and cat videos on the internet) will not be skeuomorphic. They will not be something we can predict or even imagine today. Myself and my team at Amber are making inroads in the new world, and we'll continue to be at the cutting edge - but we are well and truly at the beginning - and all we can do is keep pushing the envelope.



# The Societal Stack



The lower down the stack, the more rigid, fixed and robust it must be. The definition of a strong foundation. Figure 6

“NOTHING GREAT WAS EVER BUILT ON \$#\*& FOUNDATIONS”

Aleks Svetski

To understand money and Bitcoin, we need to go back in time, and go down the societal stack.

It’s only when you understand the foundations of everything we see around us, that things start to make sense.

As per the diagram above, you’ll note we have communication as the lower foundation, or the basis for everything. I like to call it the “Societal Sub-Strata”

Money as a mechanism via which we can exchange, specialise, measure, collaborate, cooperate and organise sits directly on top.

Everything else, I’ve called “society” then sits above it. Communication is the prerequisite for cooperation, which in turn, is the predicate for society and if we split communication into two broad categories:

- The lower foundation is the biological ability to communicate. We share this same ability with every other species on the planet / that we know of
- The upper layer is Homo Sapiens unique ability to communicate on abstract concepts and ideas. This

is unique to us, and it’s this layer that allows for broad-based coordination.

‘Shared Fictions’ as Yuval Harari, termed it in his seminal piece “Sapiens”.

In communicating about fantasies / imaginary concepts and fictions, we’re able to “hack” our biology and attain the trust required for us to cooperate in numbers that exceed our biological limits.

Or another way to phrase it:

- We’re the only species able to cooperate both flexibly and in large numbers
- This is all thanks to the stories we tell each other and choose to collectively believe.

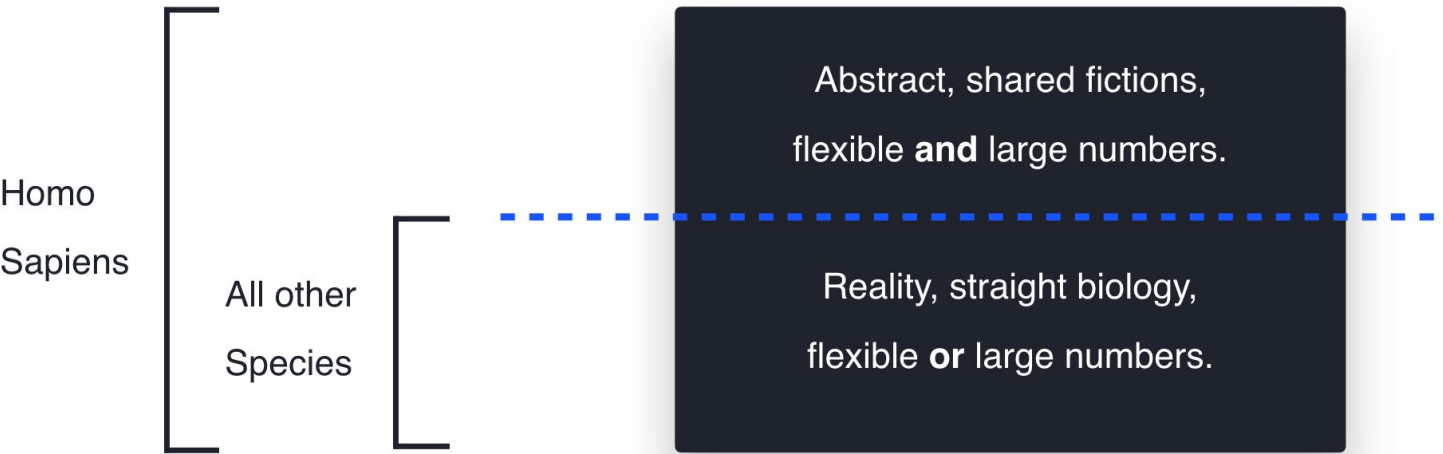


Figure 7

Why is this important?

This unique ability has allowed us to build the complexity in society that we often take for granted today.

It has allowed us to cooperate in numbers that exceed what’s called “Dunbar’s number”.

As a result, we’ve evolved from some insignificant ape in the middle of the food chain, to the apex species, at the top of the food chain, who rule the world

and have created what scientists now call the “anthroposphere”. The layer of the planetary ecosystem associated with us.

This is an extraordinary feat; made possible (at least as far as we understand) by our ability to hack trust as described above.

For those of you who think you might not be familiar with any of these shared fictions, here’s a few examples; that the world we live in today was built on, and

that you buy into daily:

- Gods
- Kings
- Religion
- Corporations
- Laws
- Nations
- Human Rights
- Government

And what’s the most important and long-standing shared fiction of all?

# Money

***“Money is not the root of all evil.  
Money is the root of all complex cooperation.”***

Aleks Svetski

## FUNCTIONS

- Store of Value
- Medium of exchange
- Unit of account



## ATTRIBUTES

- Fungibility
- Portability
- Durability
- Cognizability
- Divisibility
- Scarcity

Money is the ultimate tool of human cooperation, and it's how we've created everything we see around us. When people tell me that it's "just money", they truly don't get it.

Money is your labour, in measurable form. Without our ability to objectively and collectively agree on something to represent value, the entire world stops.

This is why we need to take any reinvention of money seriously, and it's also why Bitcoin is such a big deal.

The internet transformed the way we communicate and made information + data natively digital. The current monetary infrastructure has not yet taken that step. It's a digital veneer upon

an analogue system.

This transformation is going to happen - it's no longer an if, but a when - and the best "stack" for a global monetary infrastructure is a digital one with a robust, secure foundation, and layers of abstraction + complexity built on top.

Remember:

You can't build monuments on poor foundations.

Money is fundamental to the societal stack, and as a result it must be sound.

If you enjoyed this section and would like to learn more; the following will help give you more context and a better

understanding of how we've evolved, the role money played and Bitcoin's potential place in society:

[Homo-sapiens Evolution Money Bitcoin](#)

[“Why Bitcoin Matters”](#)



Acknowledgments

I want to give a special thanks to my team at Amber who’ve been patient whilst we put this together, including Chantelle De La Rey who came up with the idea originally, and Ryan Neale for helping put the site together.

As you may have gathered by now, @ Amber; we’re bullish on Bitcoin.

In fact, we believe everyone should have some exposure to this new network & asset because we’re confident it’s the most incredible opportunity of our generation.

Our mission at Amber is to make that exposure as simple, low risk & automated as possible, and we’re doing that by taking the “bad habit” of spending all the time, and transforming it into an option for the future, by investing the spare change from your daily purchases into an asset with extraordinary upside.

If you’d like to find out more about what we’re doing, feel free to reach out on any of the details below:

[www.amber.app](http://www.amber.app)

   @TheAmberApp



Inspiration

We all stand on the shoulders of giants, and this paper wouldn’t be complete without a special thanks to all the brilliant minds that have helped inspire this line of thought, including but not limited to:

- Andreas Antonopoulos
- Murad Mahmudov
- Jimmy Song
- Saifedean Ammous
- Nic Carter
- Nassim Taleb
- Giacomo Zucco,
- + Many more.

and of course, **Satoshi Nakamoto**.  
Whoever you are. Thank you & Stay hidden 🙈



Want to buy a Limited Edition Hard Copy of The Bitcoin Times Ed.1 ?

What kind of Bitcoin people would we be if we didn’t print limited edition, fixed supply, signed + barcoded copies of The Bitcoin Times and allowed people to buy them using a custom bitcoin & lightning cart?

Seriously though.

The aim here is not only to talk about it, but to show its use.

Lightning is early but awesome, and the ability to codify the payment parameters & have them come in instantly from anywhere in the world, at basically no cost, is incredible.

Now....Owning one of these as a hard copy might seem trivial, but we hope that in 20yrs time, when Bitcoin’s captured a much larger slice of the global capital pie, these initial edition Bitcoin Times newspapers will be worth something, particularly when they’re out of print and only priced in Sats.

**>>> Coming in May 2019 <<<**

Looking Ahead


We’ll be releasing 2 to 3 editions of The Bitcoin Times yearly.

In the coming editions, we’ll be collaborating with some of the most brilliant minds in Bitcoin (including those who’ve inspired this work), to not only save Aleks a few sleepless nights but to deliver another piece of truly timeless bitcoin content, that you and everyone you care about can refer to, forever.

If you found value in this edition, remember to upvote the Bitcoin Times on Product Hunt, and stay tuned for more announcements on twitter.

If you’re interested in writing a column & collaborating with us, or have any suggestions on who else should we should approach, please hit us up on Twitter.

[bitcointimes.news](http://bitcointimes.news)

 @Timelessbitcoin



This has been quite a journey – and a long few days for myself and the team.

If you’ve come this far and read the entire paper – I just want to say thank you for the time you’ve dedicated to it.

Time is our most precious resource; and its absolute scarcity is a big part of why we value it so much.

I would argue that Bitcoin is the next most scarce resource and I hope that by now you appreciate its importance as well – if not as much as I do, at least a lot more than you did before.

Whilst this paper was not meant to be a scientifically detailed expose on Bitcoin, it was meant to paint a picture, drive home a viewpoint, present a logical argument and help open your mind to what might be the true zeitgeist of our time.

I’ll leave you with some final quotes from one of my favourite books, written by someone I consider the quintessential contrarian, along with some final quote-related thoughts for you to take away.

Peter Thiel’s Zero to One:

1. “Brilliant thinking is rare, but courage is in even shorter supply than genius.”

2. “Today’s “best practices” lead to dead ends; the best paths are new and untried.”
3. “Every moment in business happens only once. The next Bill Gates will not build an operating system. The next Larry Page or Sergey Brin won’t make a search engine. And the next Mark Zuckerberg won’t create a social network. If you are copying these guys, you aren’t learning from them.”

When you think about those three quotes, I hope you too can relate them back to the essence of this paper, because:

1. It’s the courageous who stand by Bitcoin and are willing to call it out as it is. They’re also known as the stubborn, dedicated minority.
2. Today’s banking and financial infrastructure is a best practice that will lead to what we have now. Going somewhere new will require a new path.
3. Bitcoin was the zero to one innovation. The moment already happened. Copying it and trying to make a “better blockchain” is pointless. The next wave of innovation will happen on top. That’s where we all must go.

Thank you,

The Bitcoin Times editorial team