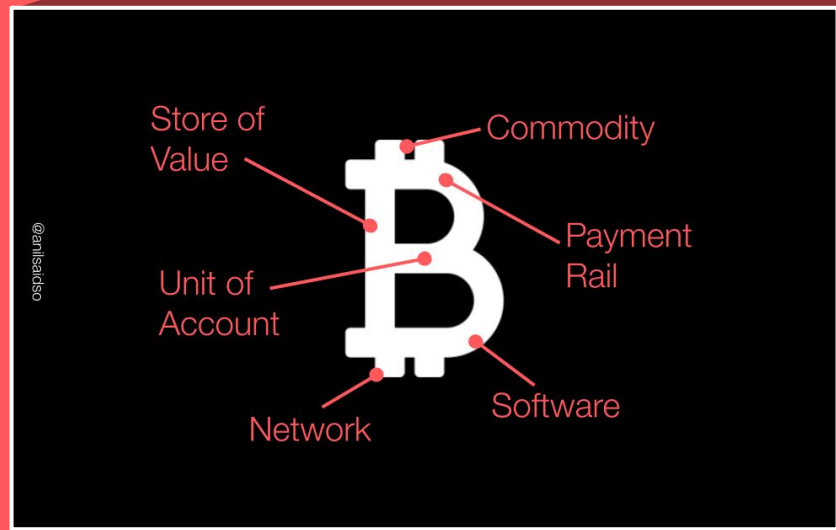
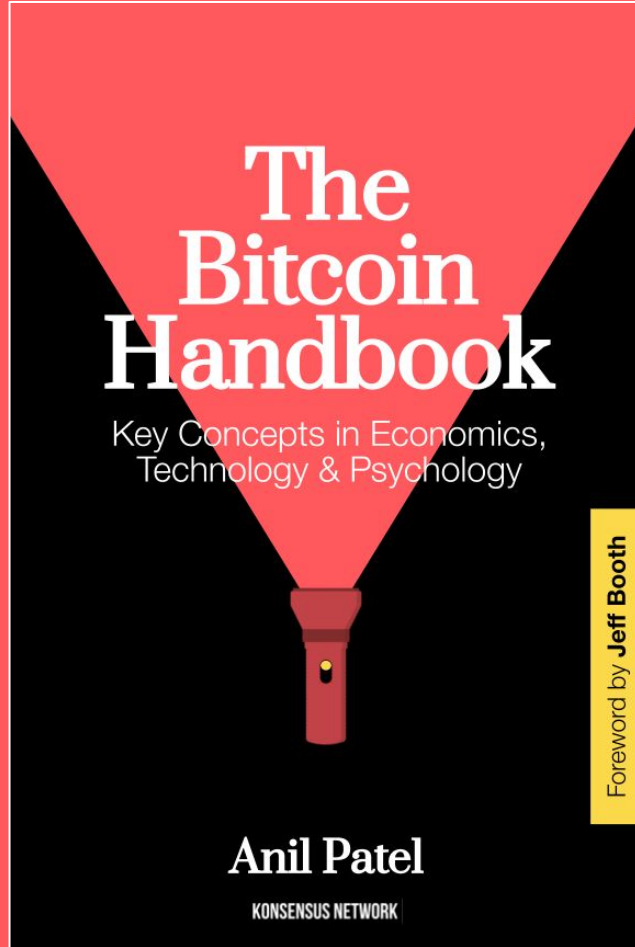


Bitcoin's Essential Concepts

PRESENTATION DECK



This deck is adapted from the book:



Anil

@anilsaidso 

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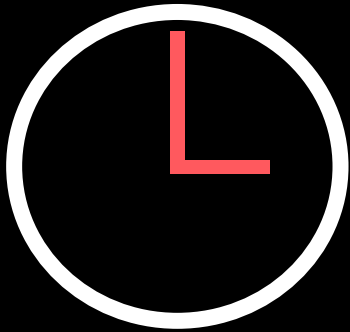
III. Psychology

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12. Lindy Effect
13. Emergence
14. Streisand Effect
15. Moral Hazard
16. Counterparty Risk

Economics

SCARCITY

BITCOIN
ESSENTIAL
CONCEPTS



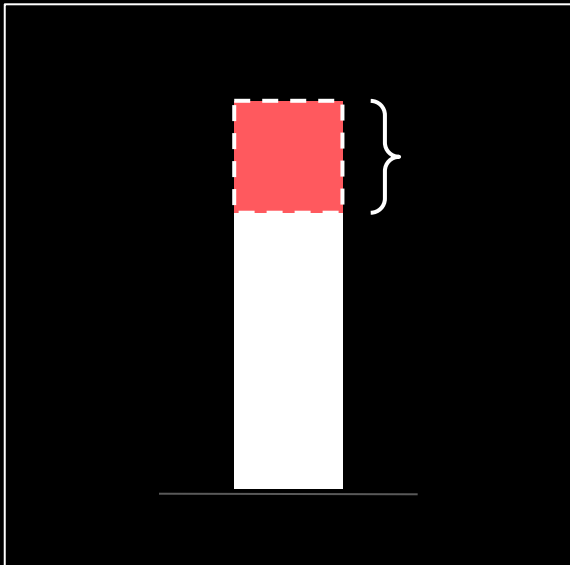
*How limited resources
are allocated and
competed for*

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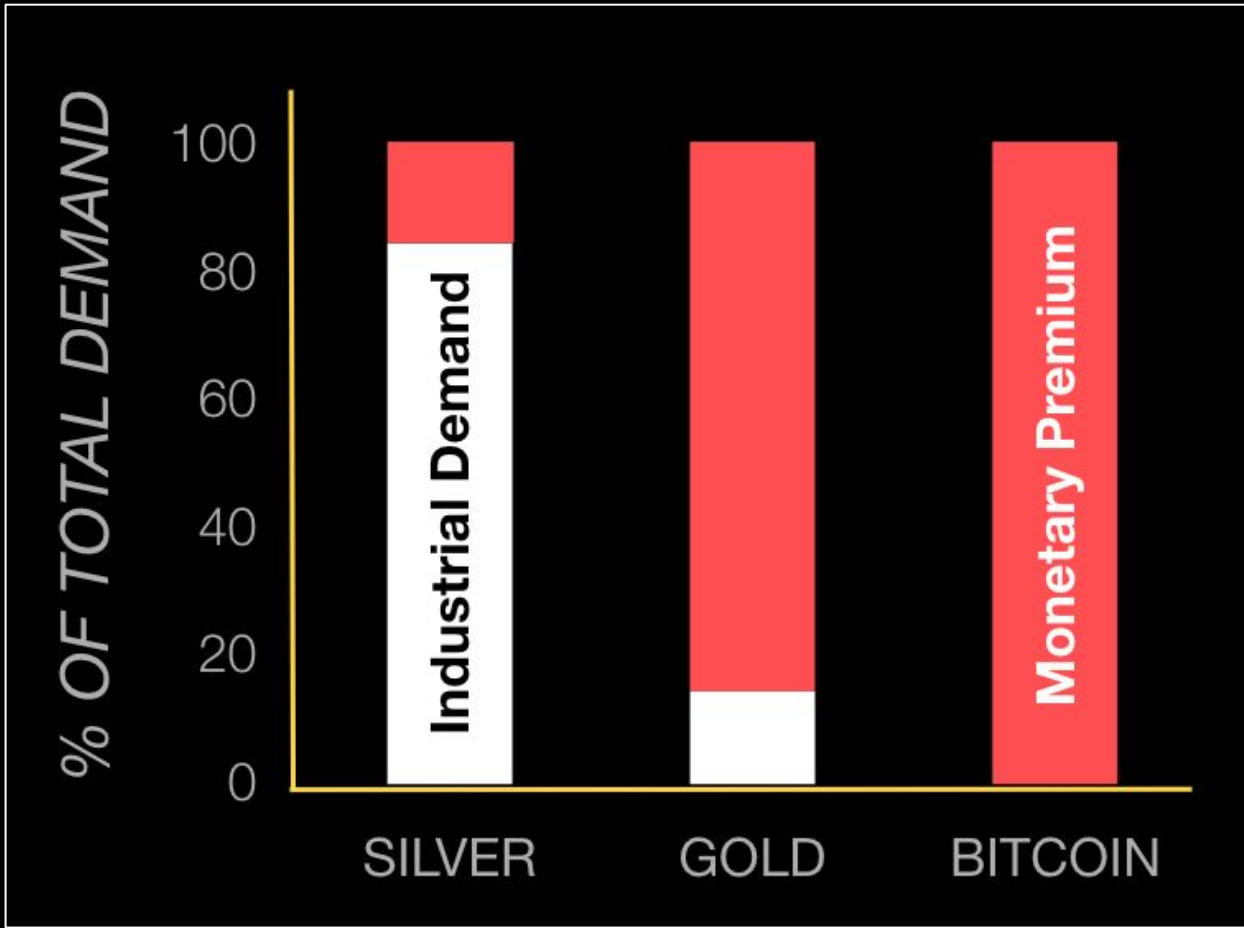


MONETARY PREMIUM

BITCOIN
ESSENTIAL
CONCEPTS



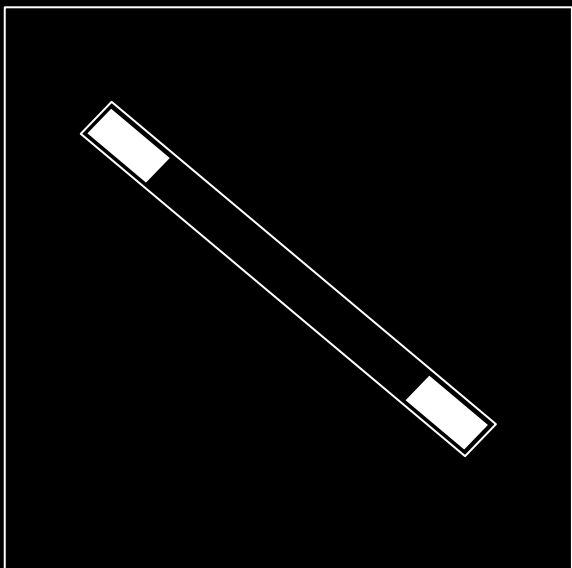
*Purchasing power of a
monetary good in excess
of its use-value alone*



source: 'The Bullish Case for Bitcoin' by Vijay Boyapati

GRESHAM'S LAW

BITCOIN
ESSENTIAL
CONCEPTS



When two forms of commodity money are decreed with equivalent face value, the more valuable commodity will be saved—disappearing from circulation.

@anilsaidso



More valuable



Less valuable

THIER'S LAW

BITCOIN
ESSENTIAL
CONCEPTS



Absent legal tender laws, money that cannot be relied upon to preserve value will be rejected in favor of superior forms.



==



==



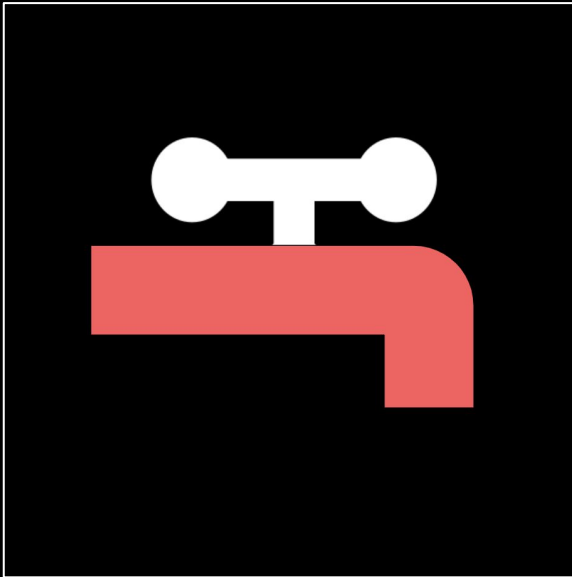
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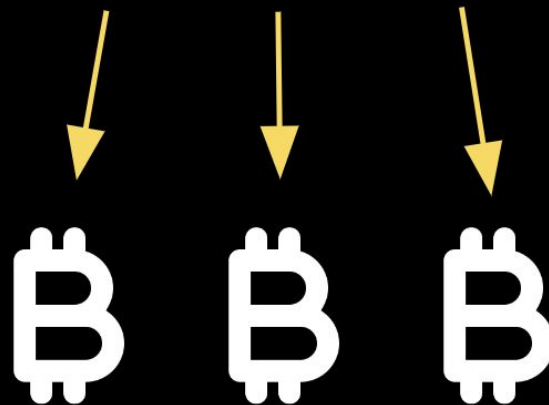
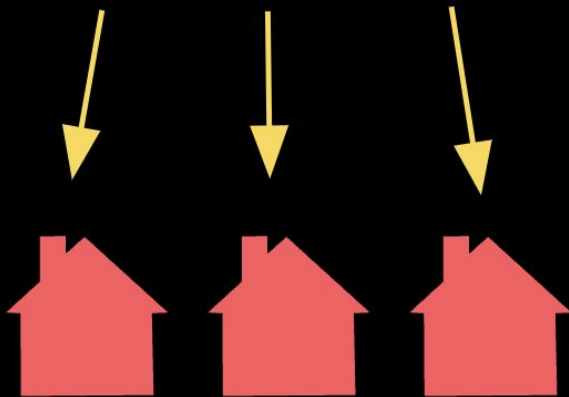
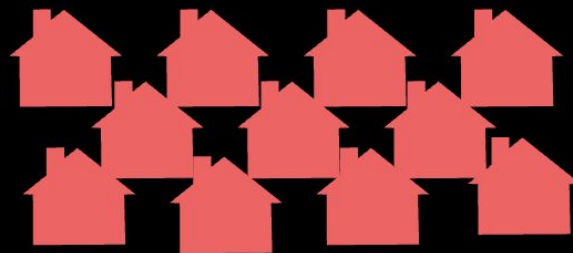
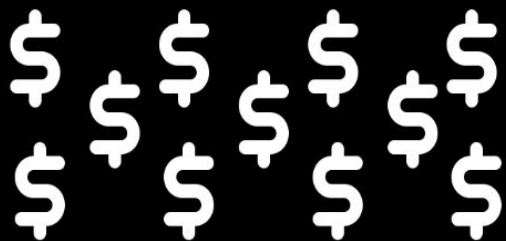
CANTILLON EFFECT



BITCOIN
ESSENTIAL
CONCEPTS



New units of money create disproportionate price inflation when added into an economy based on the path they travel



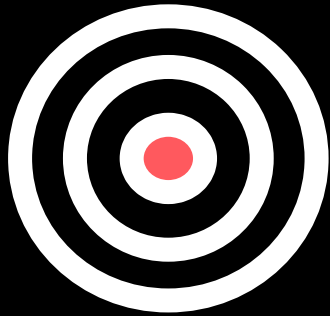
*Abundant money
chases scarce assets.*

*Abundant assets
chase scarce money.*

SCHELLING POINT



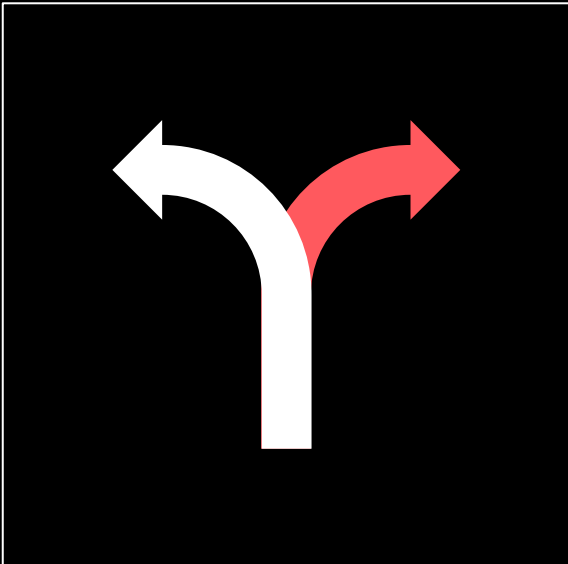
BITCOIN
ESSENTIAL
CONCEPTS



A solution that people tend to choose, by default, in the absence of communication

OPPORTUNITY COST

BITCOIN
ESSENTIAL
CONCEPTS



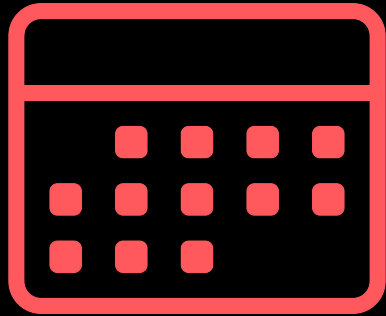
When doing one thing comes at the cost of not being able to do something else

“When money is hard and can appreciate, individuals are likely to be very discerning about what they spend it on, as the opportunity cost appreciates over time.”

—SAIFEDEAN AMMOUS

TIME PREFERENCE

BITCOIN
ESSENTIAL
CONCEPTS



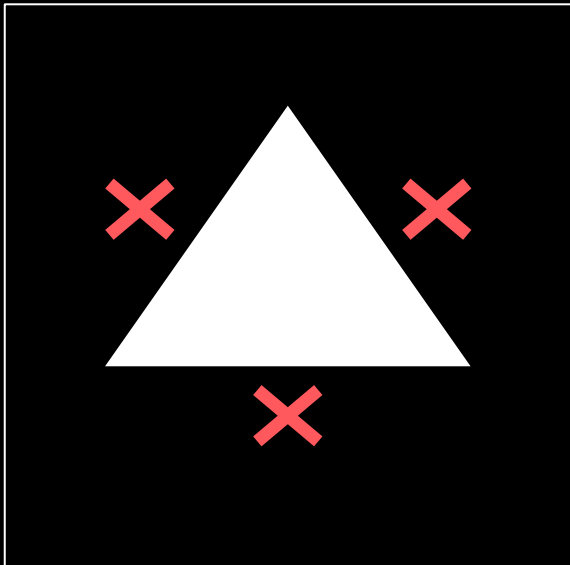
The degree to which someone values the present relative to the future

TIME PREFERENCE SPECTRUM



IMPOSSIBLE TRINITY

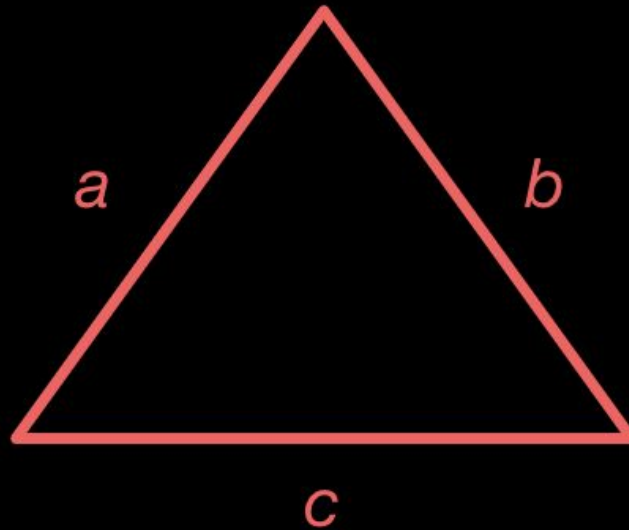
BITCOIN
ESSENTIAL
CONCEPTS



A sovereign nation cannot simultaneously have free capital flows, independent monetary policy and a fixed exchange rate

PICK ANY TWO

FREE CAPITAL
FLOWS



INDEPENDENT
MONETARY
POLICY

FIXED
EXCHANGE
RATE

JEVONS PARADOX

BITCOIN
ESSENTIAL
CONCEPTS



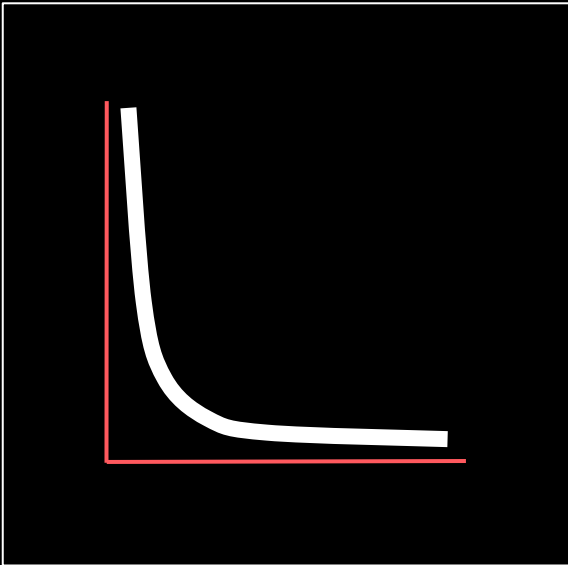
The observation that consumption of a resource increases when efficiency gains are achieved through its use

DEMAND CURVE OF RESOURCE X



POWER LAWS

BITCOIN
ESSENTIAL
CONCEPTS



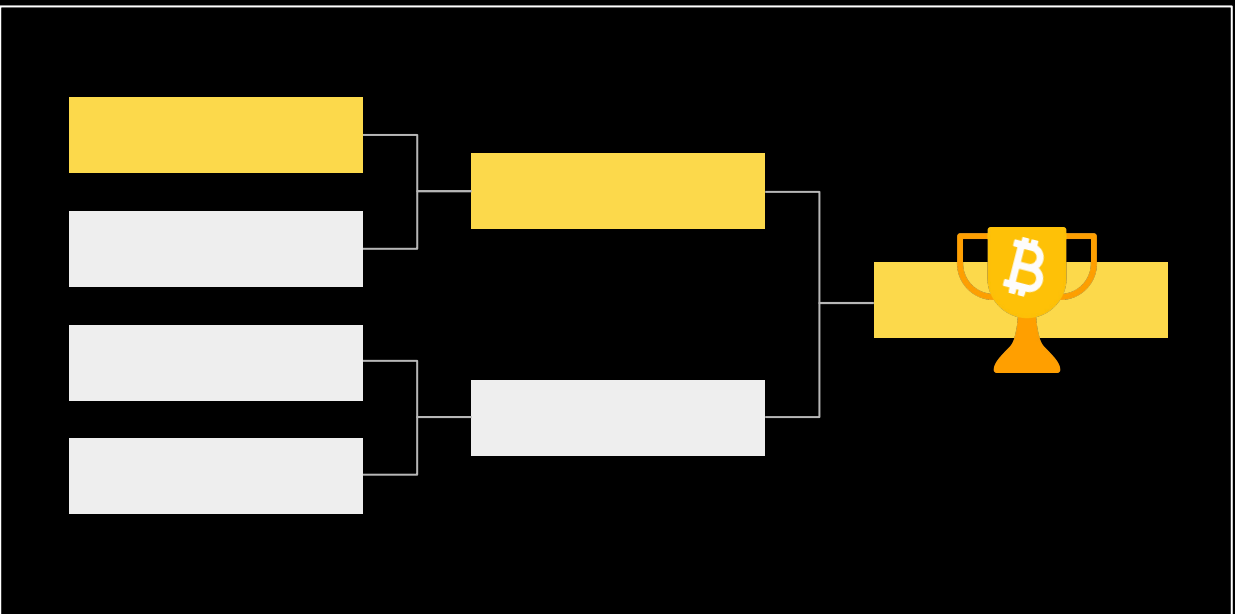
Relationships between two quantities, where changes to one leads to a proportional relative change to the other.

WINNER-TAKE-ALL MARKETS

BITCOIN
ESSENTIAL
CONCEPTS



Competitions where the single best performer captures the entire reward on offer

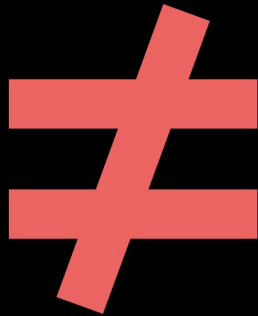


*“Money is a network.
Some networks are singular
(i.e., winner-takes-all).
Money is such a network.”*

—GIGI

UNIT BIAS

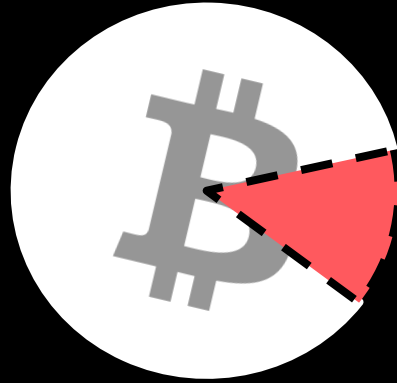
BITCOIN
ESSENTIAL
CONCEPTS



The faulty reasoning that a single unit must be the appropriate amount from which to make assessments and comparisons

YOU CAN

BUY A



FRACTION

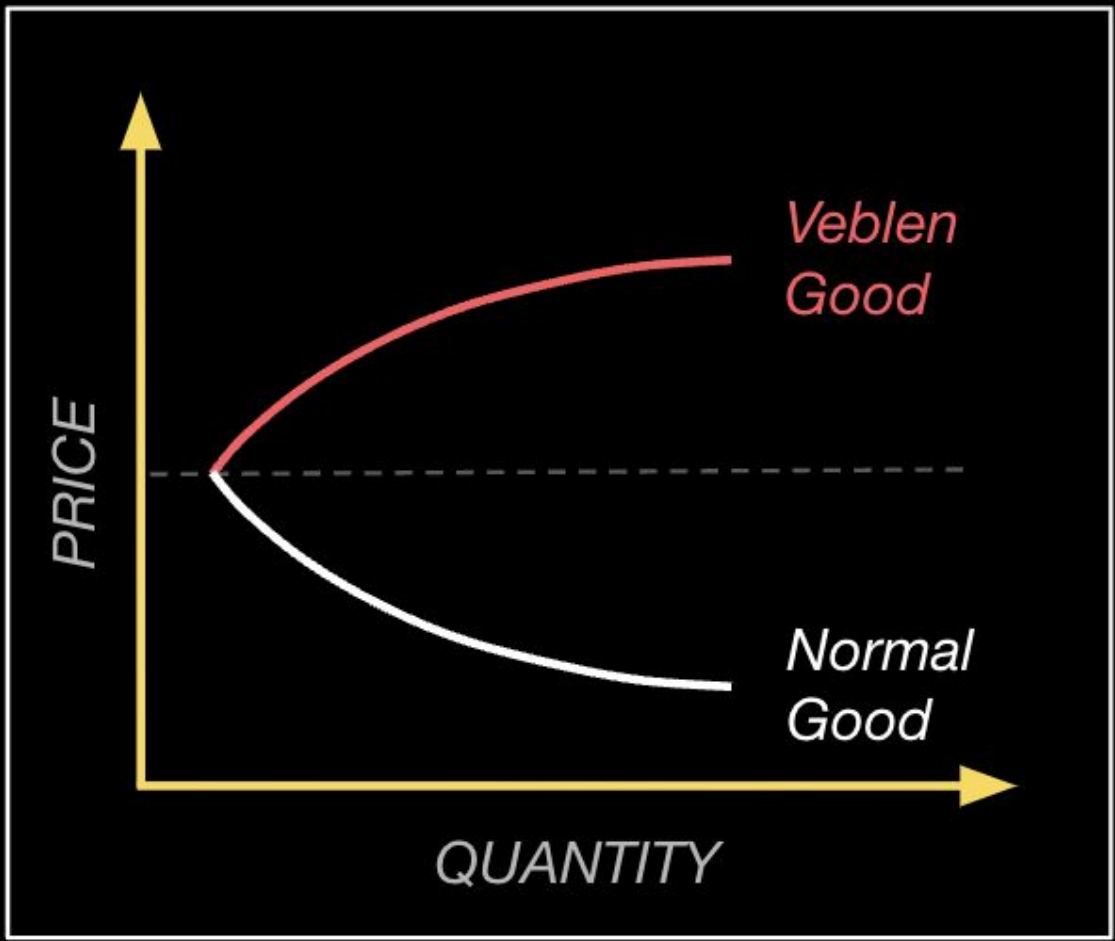
OF A BITCOIN

VEBLEN GOOD

BITCOIN
ESSENTIAL
CONCEPTS

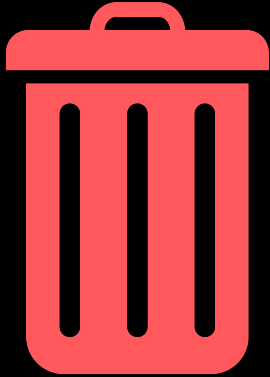


Types of goods where the quantity demanded increases as the price increases

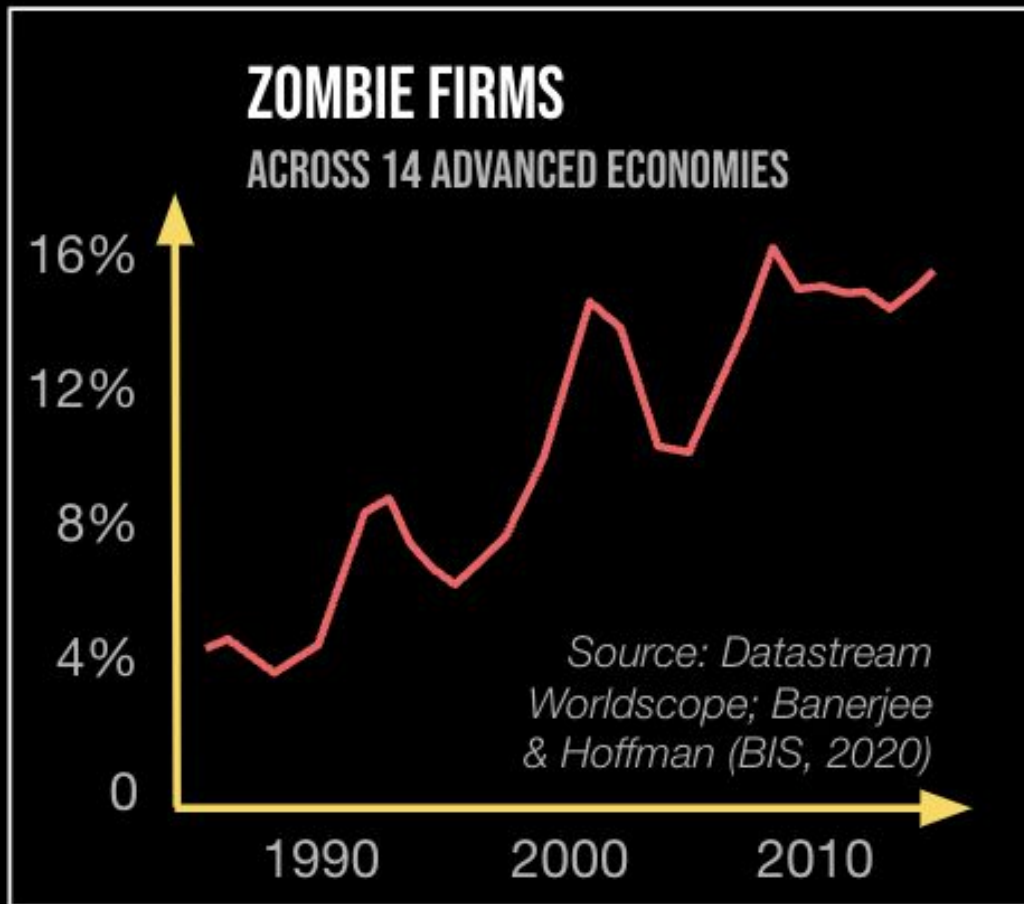


MALINVESTMENT

BITCOIN
ESSENTIAL
CONCEPTS

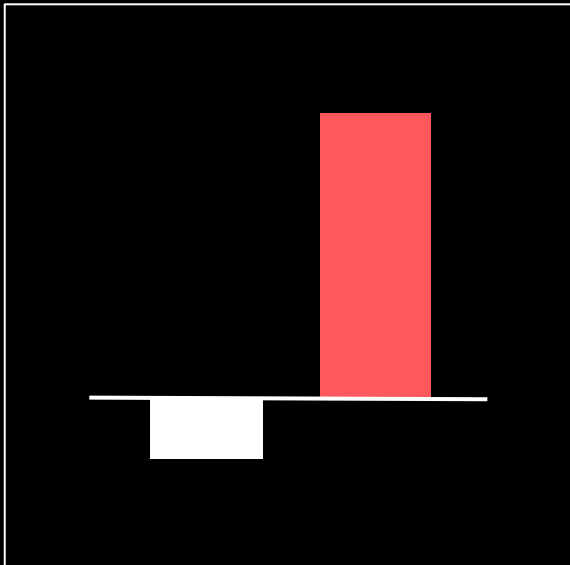


Distorted price signals cause a misallocation of capital towards less productive uses than would otherwise be chosen under a free market



ASYMMETRIC PAYOFF

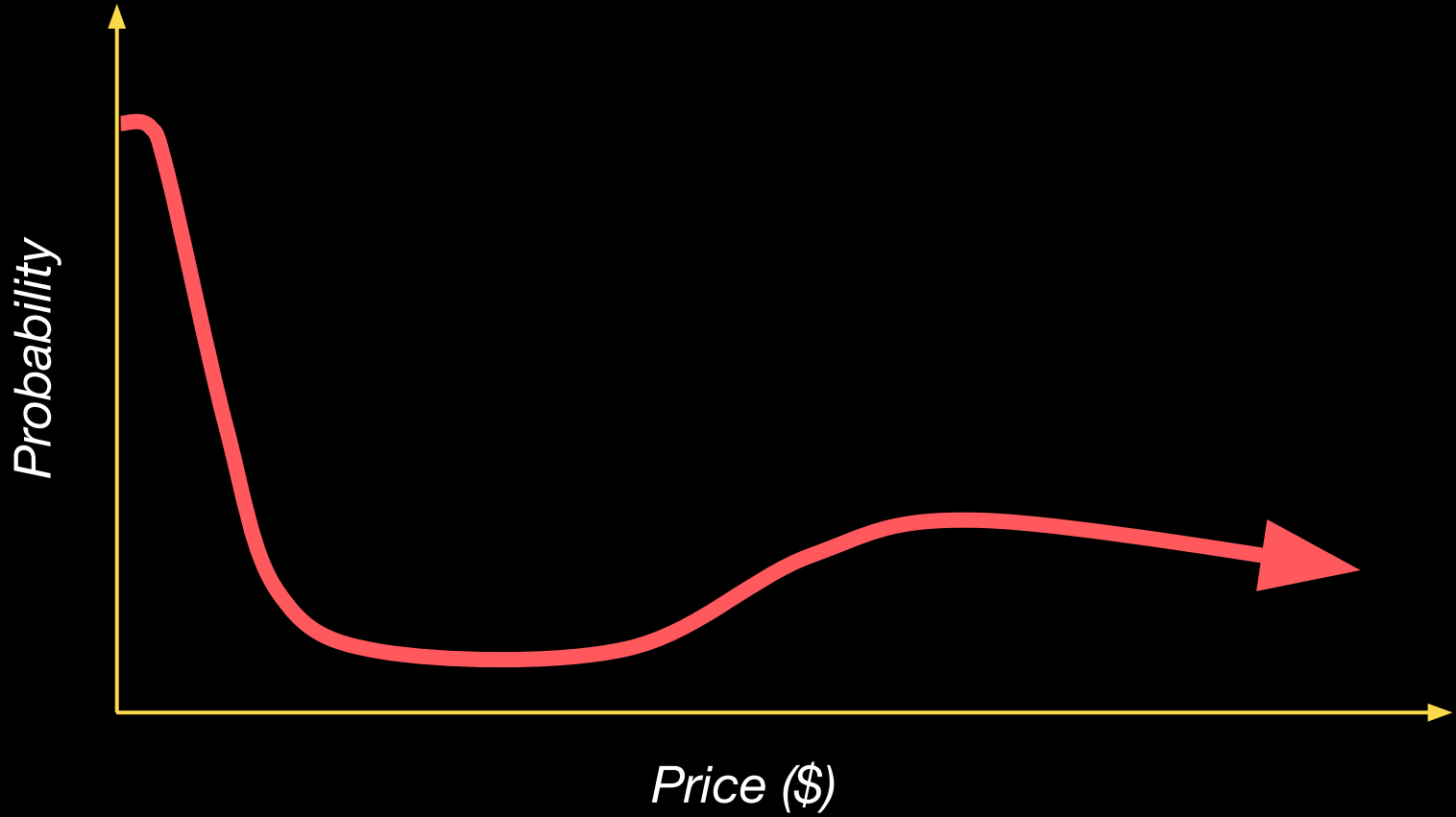
BITCOIN
ESSENTIAL
CONCEPTS



Investment decisions where the potential upside is disproportionately greater than the downside risk

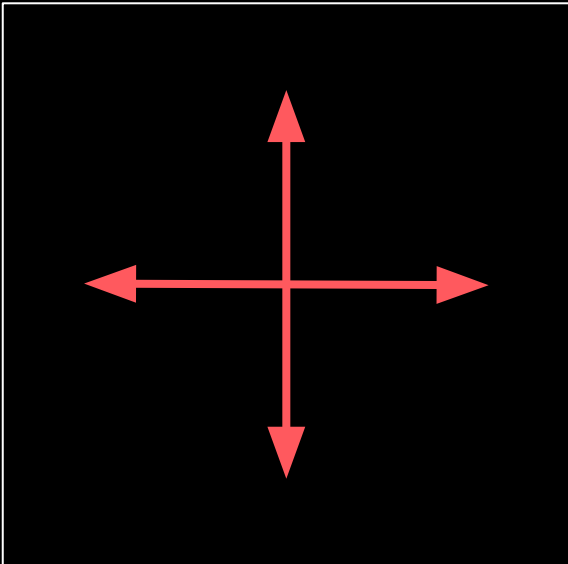
“We can debate whether or not bitcoin is going to be a big deal in the future. But I don’t think we can debate that if it is it’s going to have an enormous right tail.”

—ROSS STEVENS

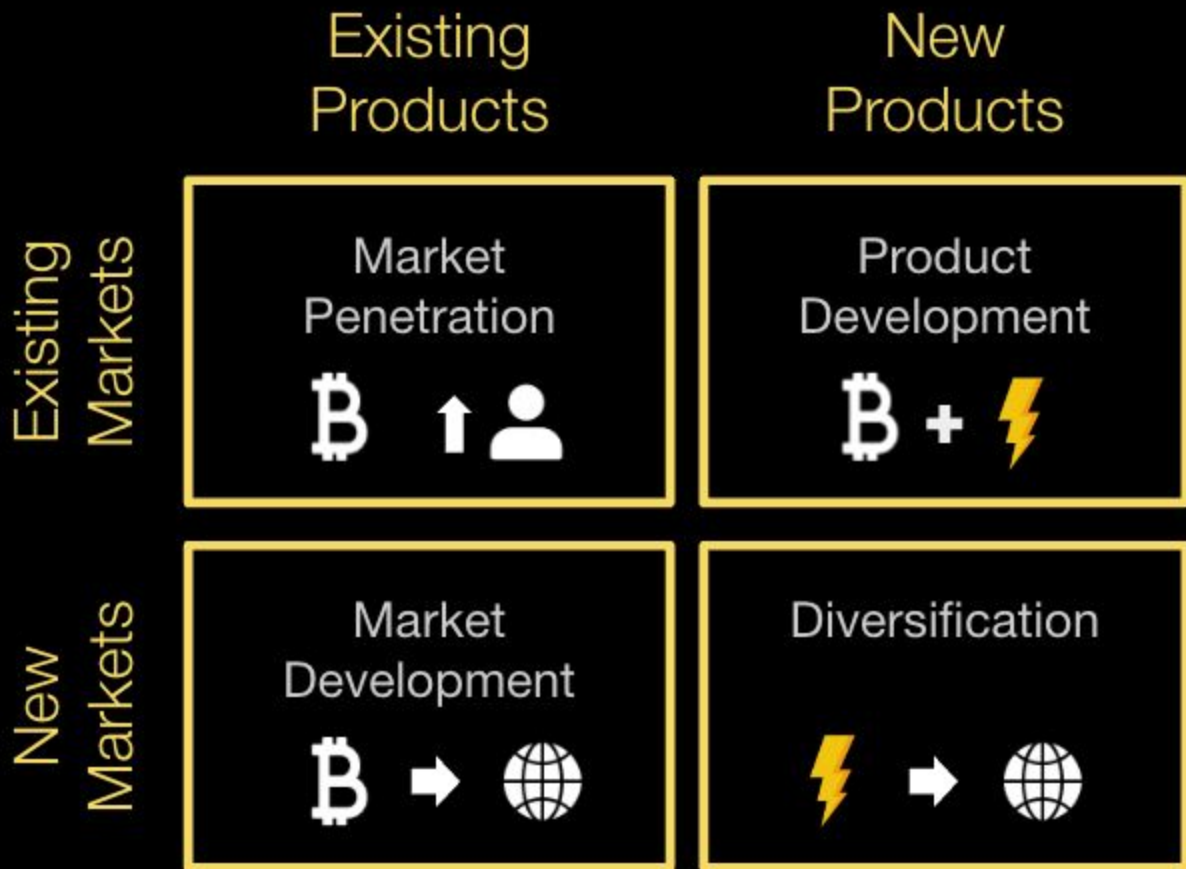


ANSOFF MATRIX

BITCOIN
ESSENTIAL
CONCEPTS



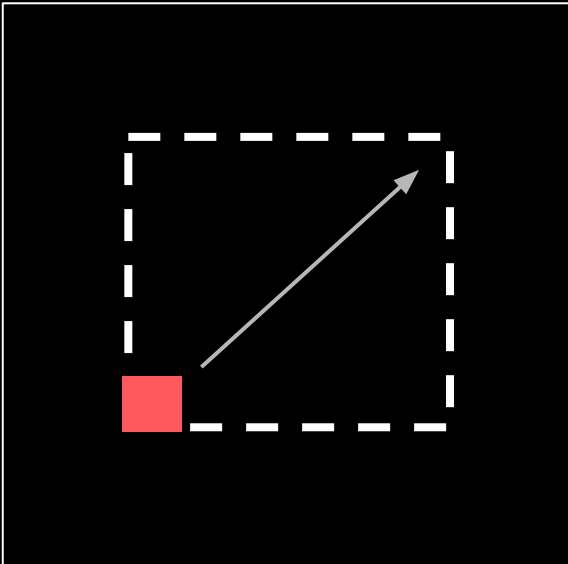
A strategic framework for growth opportunities of a product across lines and markets



Technology & Systems

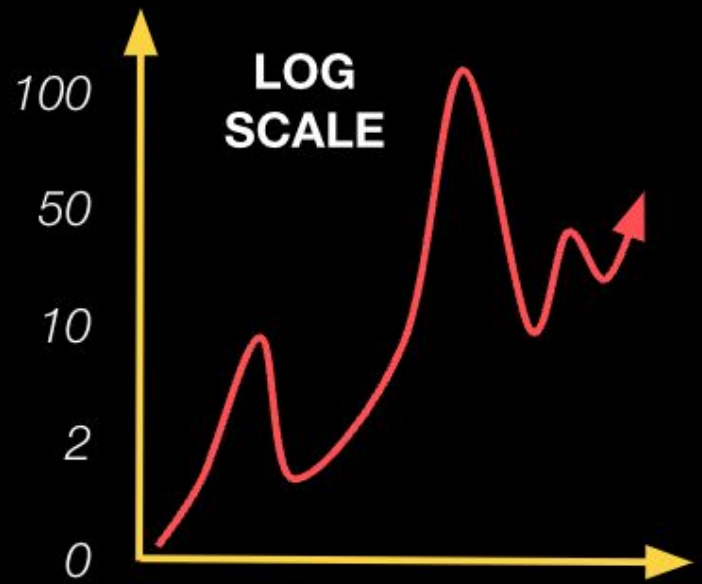
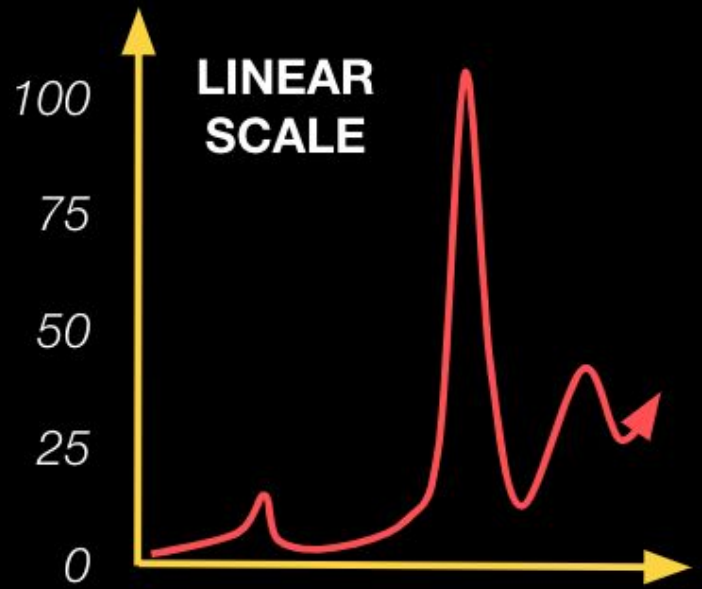
ORDERS OF MAGNITUDE

BITCOIN
ESSENTIAL
CONCEPTS



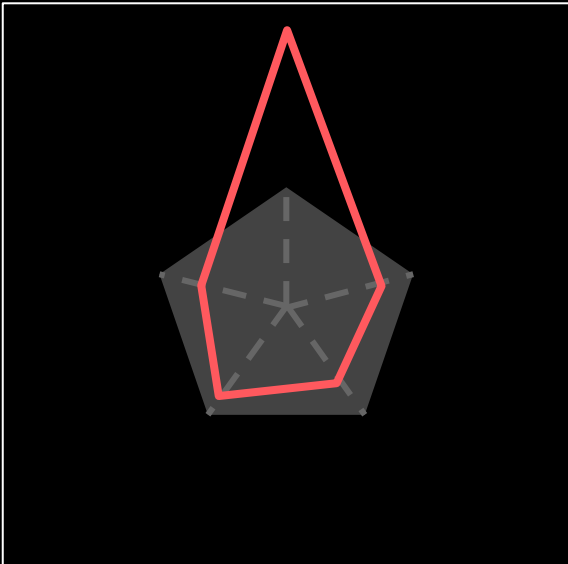
When comparing two measurements in linear terms in infeasible, multiples of ten can provide a more intuitive scale

@anilsaidso



10X IMPROVEMENT RULE

BITCOIN
ESSENTIAL
CONCEPTS



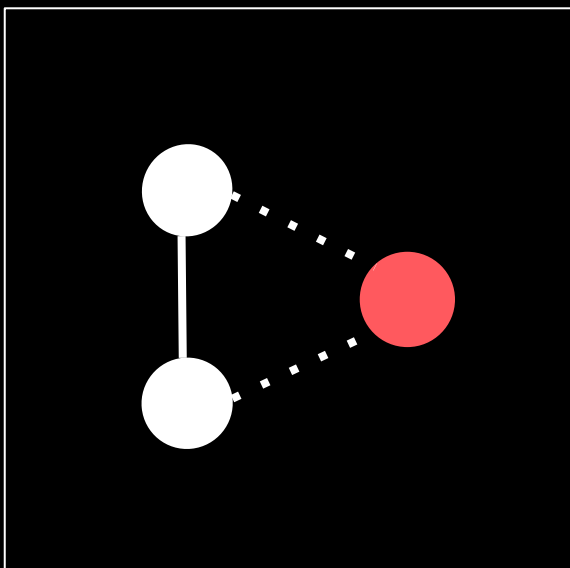
New technologies must offer a benefit ten times greater than a predecessor or substitutes to gain widespread adoption

*“As a good rule of thumb, proprietary technology must be **at least 10 times better** than its closest substitute in some important dimension to lead to a real monopolistic advantage.”*

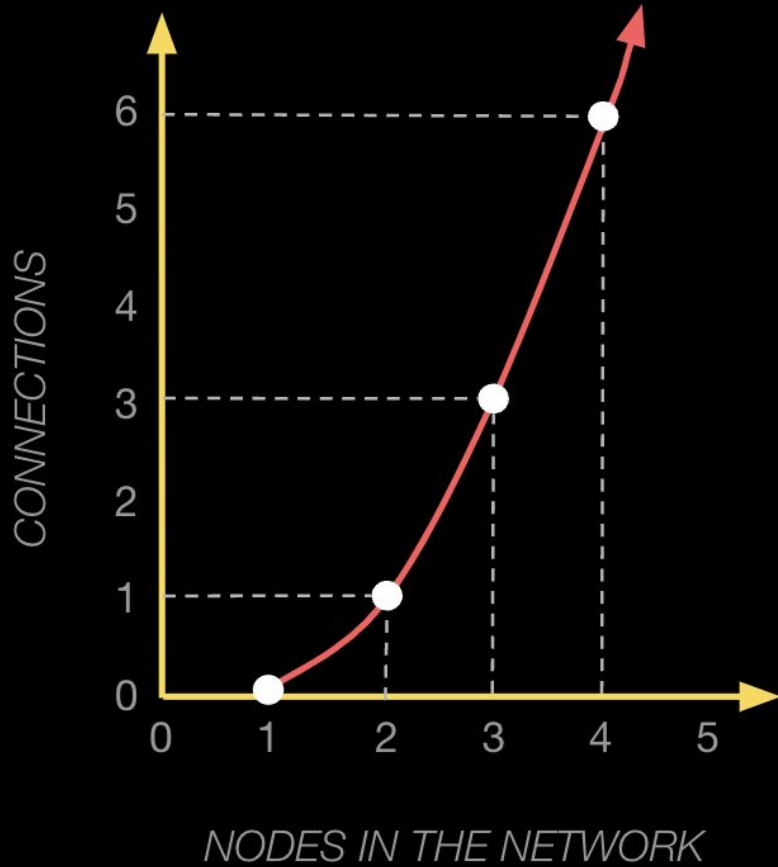
—PETER THIEL

NETWORK EFFECTS

BITCOIN
ESSENTIAL
CONCEPTS



The phenomena whereby each additional user to a network adds disproportionately more value and utility



$$\frac{n(n - 1)}{2}$$

CHURN

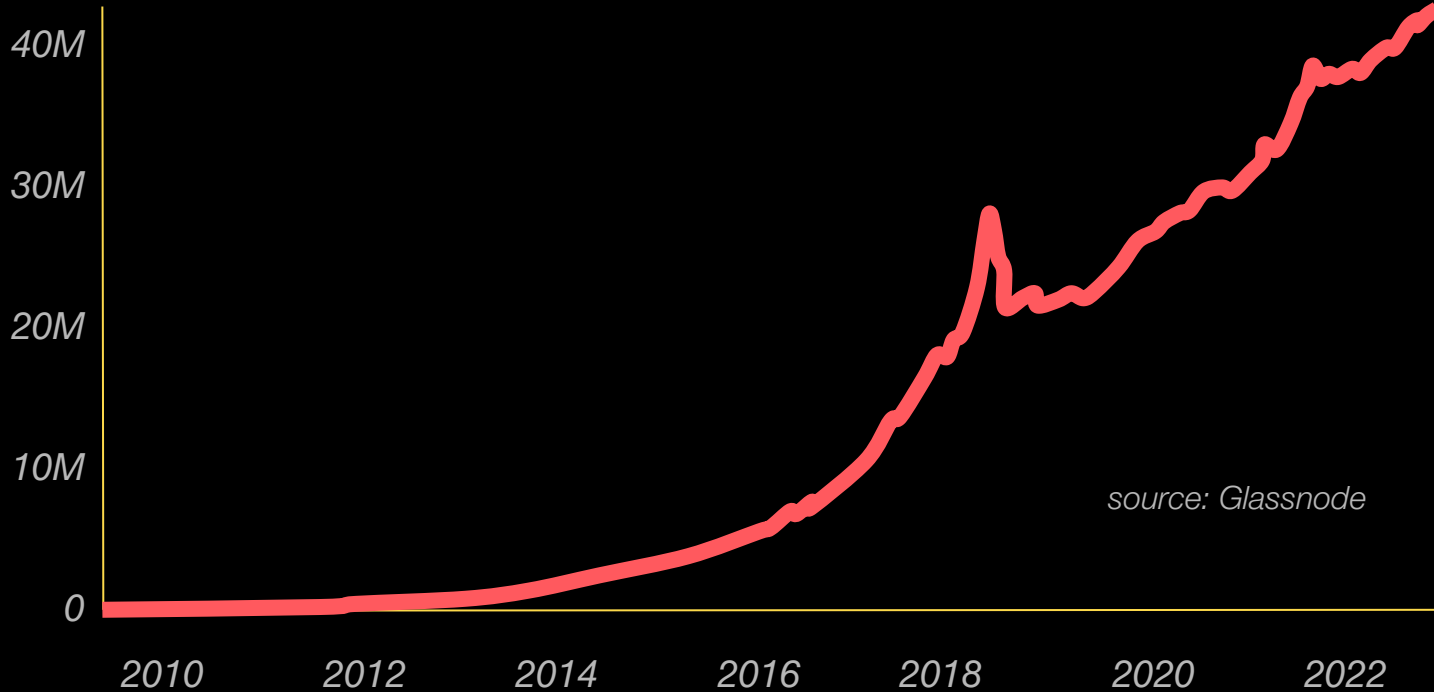
BITCOIN
ESSENTIAL
CONCEPTS



*The rate of user attrition,
often expressed as a
percentage*

@anilsaidso

NON-ZERO BITCOIN ADDRESSES

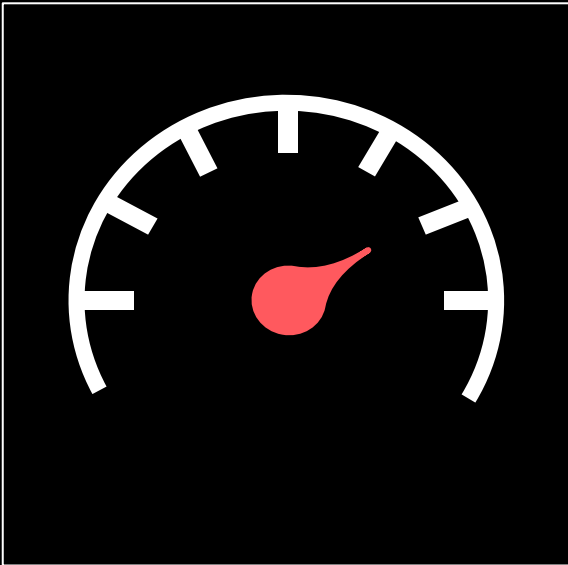


source: Glassnode

@anilsaidso

ACCELERATING RETURNS

BITCOIN
ESSENTIAL
CONCEPTS

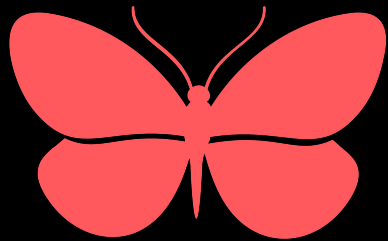


The rate of technological change is exponential, resulting in ever-increasing innovation and disruption

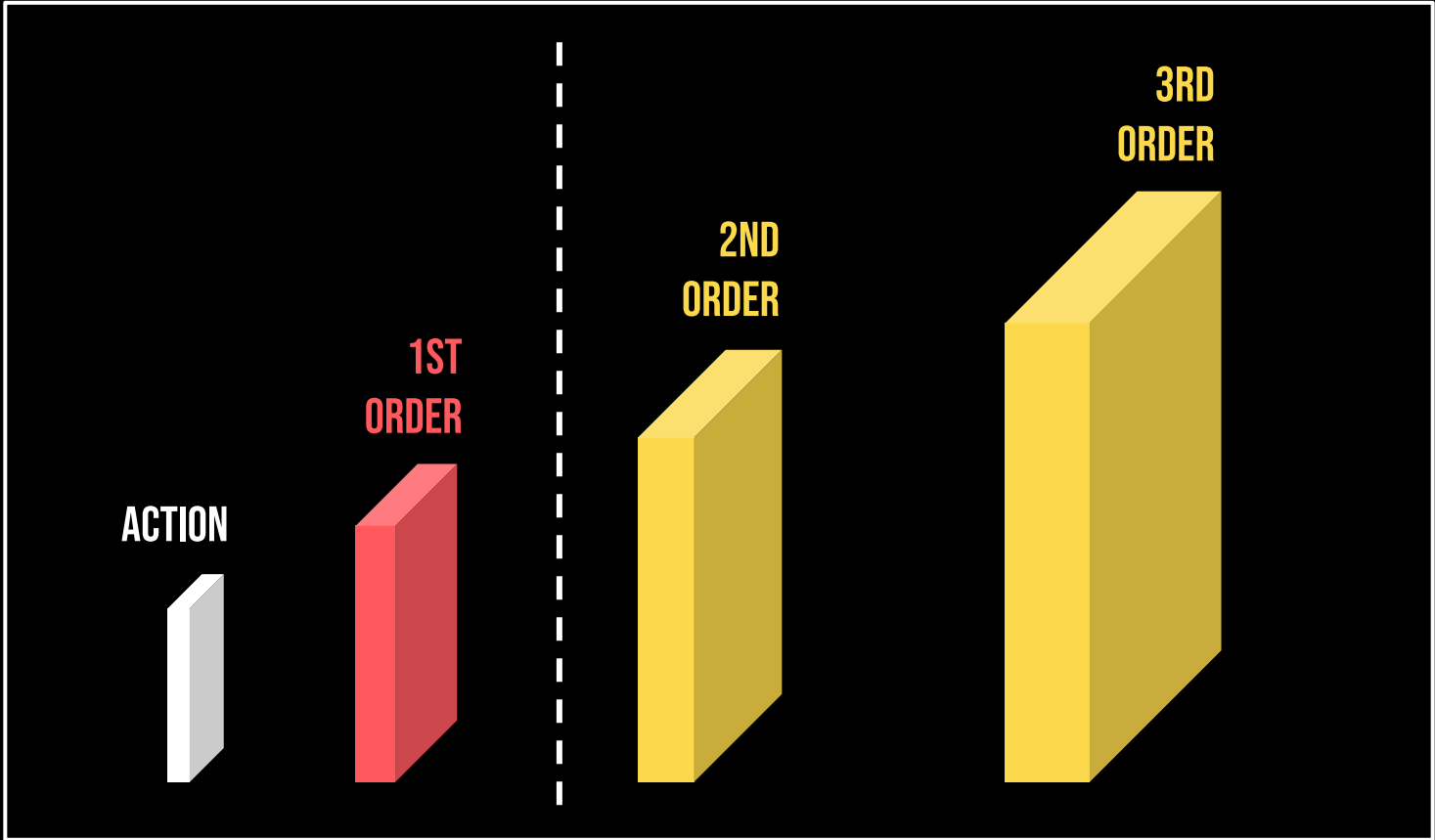


HIGHER-ORDER EFFECTS

BITCOIN
ESSENTIAL
CONCEPTS



*Actions have consequences.
And those consequences
have consequences.*

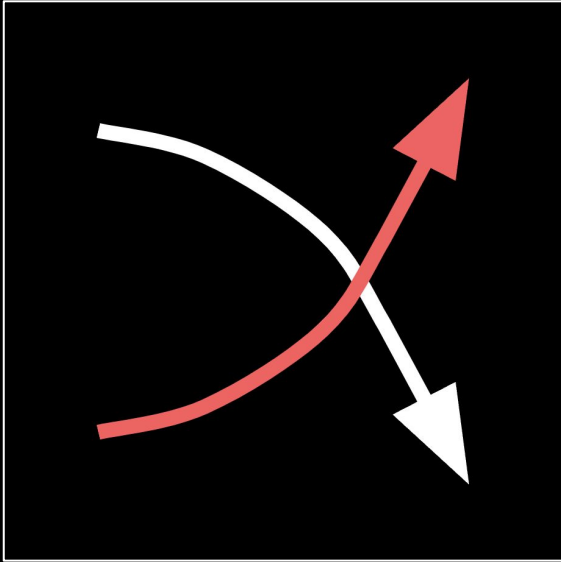


“Many people look at first order effects, thinking in the short term. Conversely, not spending time considering the 2nd and 3rd order effects of actions — which leads them to put too much trust in a system that will ultimately fail.”

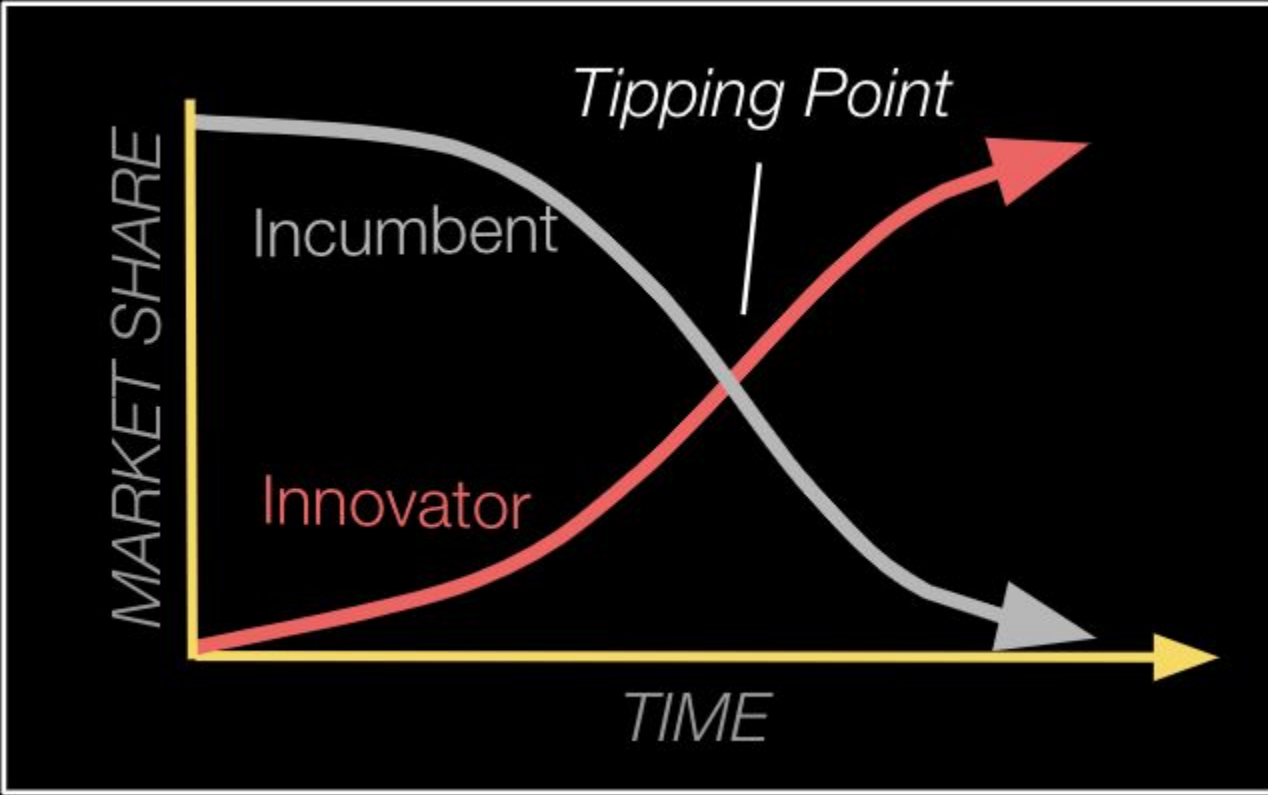
—JEFF BOOTH

CREATIVE DESTRUCTION

BITCOIN
ESSENTIAL
CONCEPTS



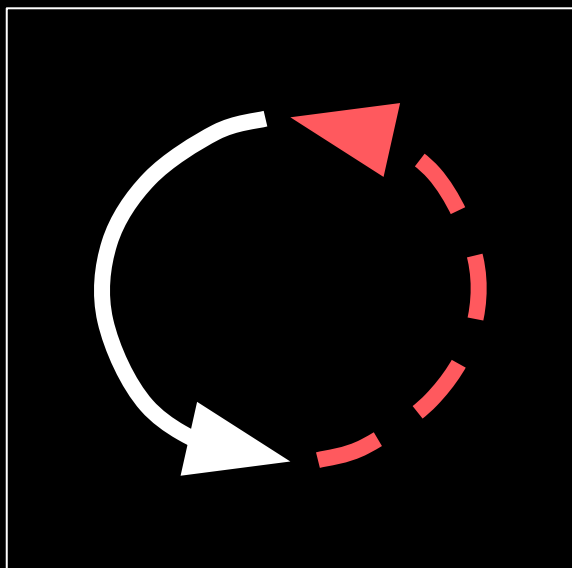
*The cycle of entrepreneurs
out-innovating and obsoleting
incumbents, under a free-market*



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FEEDBACK LOOPS

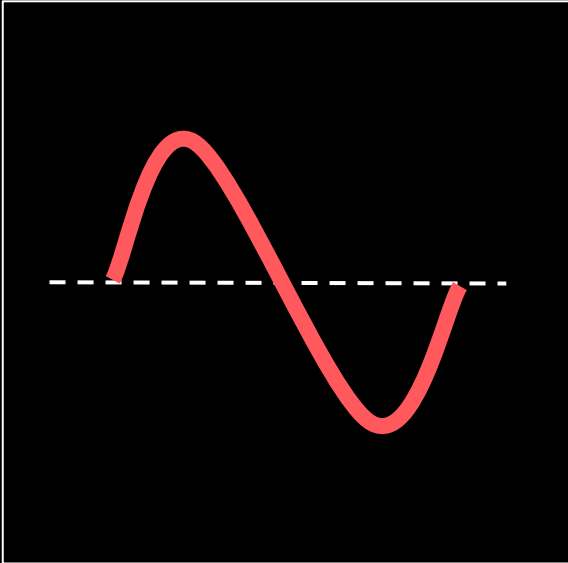
BITCOIN
ESSENTIAL
CONCEPTS



A system that reacts to its environment and the resultant output gets re-incorporated as an input

REFLEXIVITY

BITCOIN
ESSENTIAL
CONCEPTS

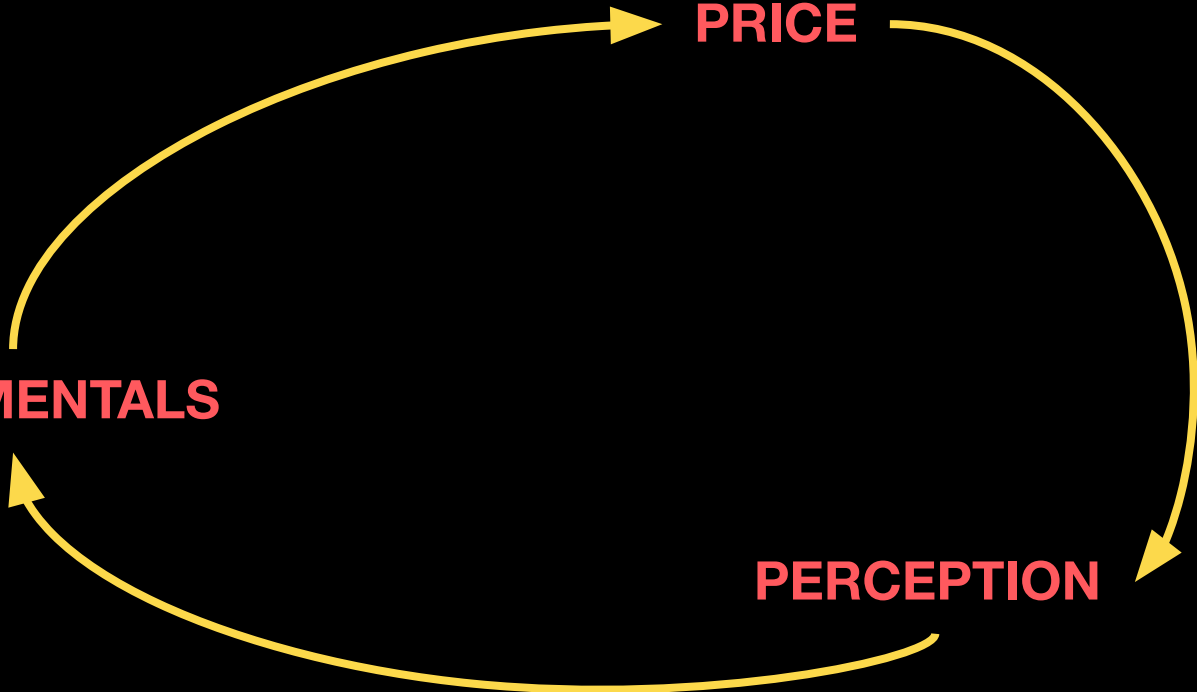


The circular relationship between market participants and market sentiment, whereby attributing the respective impact of either is difficult

FUNDAMENTALS

PRICE

PERCEPTION

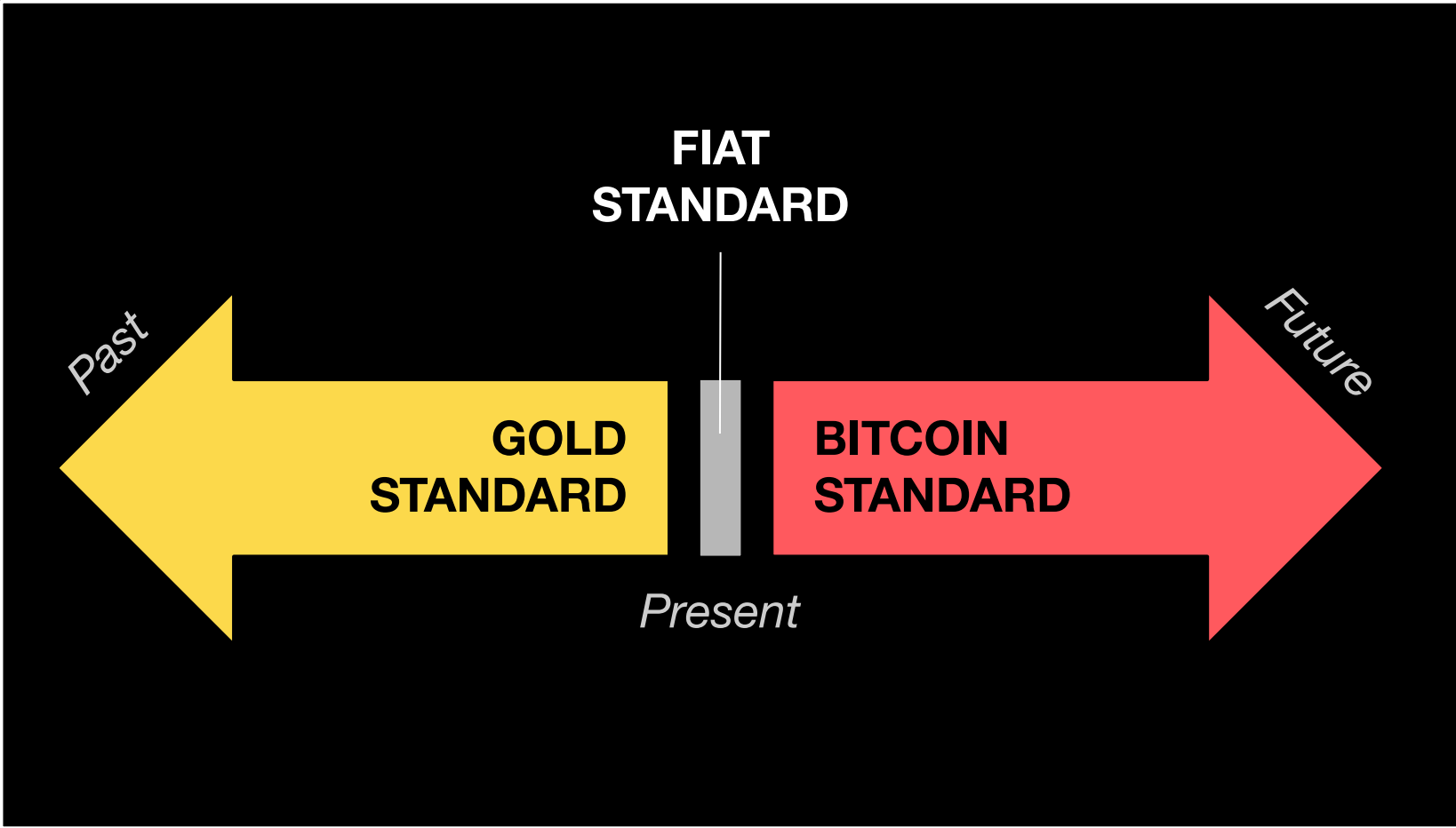


RELATIVITY

BITCOIN
ESSENTIAL
CONCEPTS



When you're a part of a system, it can be difficult to zoom out to gain perspective

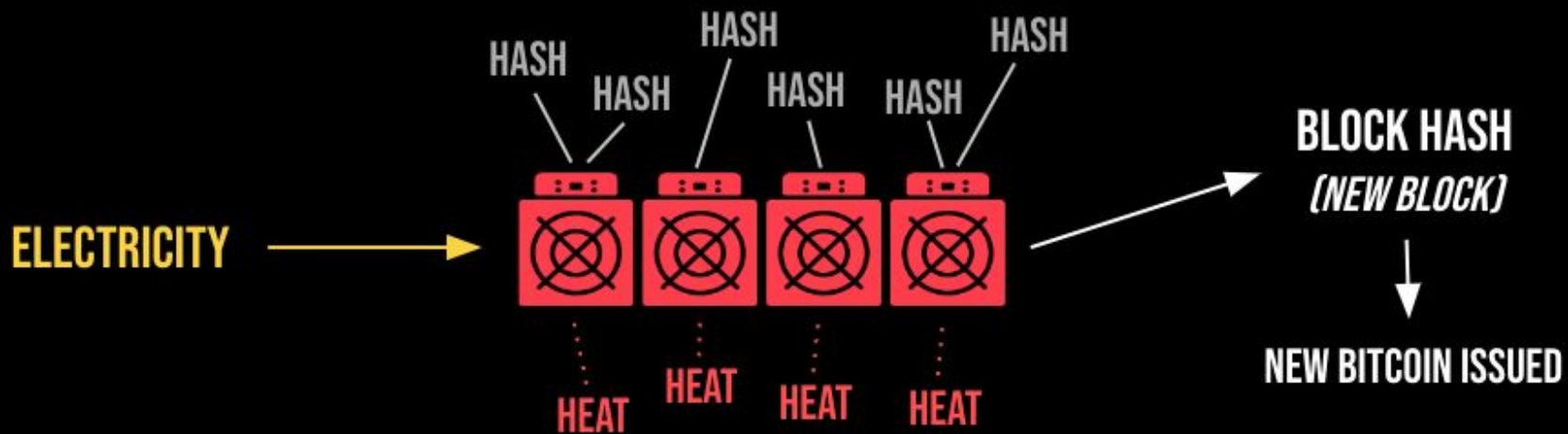


THERMODYNAMICS 1ST LAW

BITCOIN
ESSENTIAL
CONCEPTS

0000000000000000
000000592A974
B1B9F087CB776
28BB4A097D5C2
C11B3476A58E

*Energy cannot be created nor
destroyed in isolated systems.
It can only be transformed*

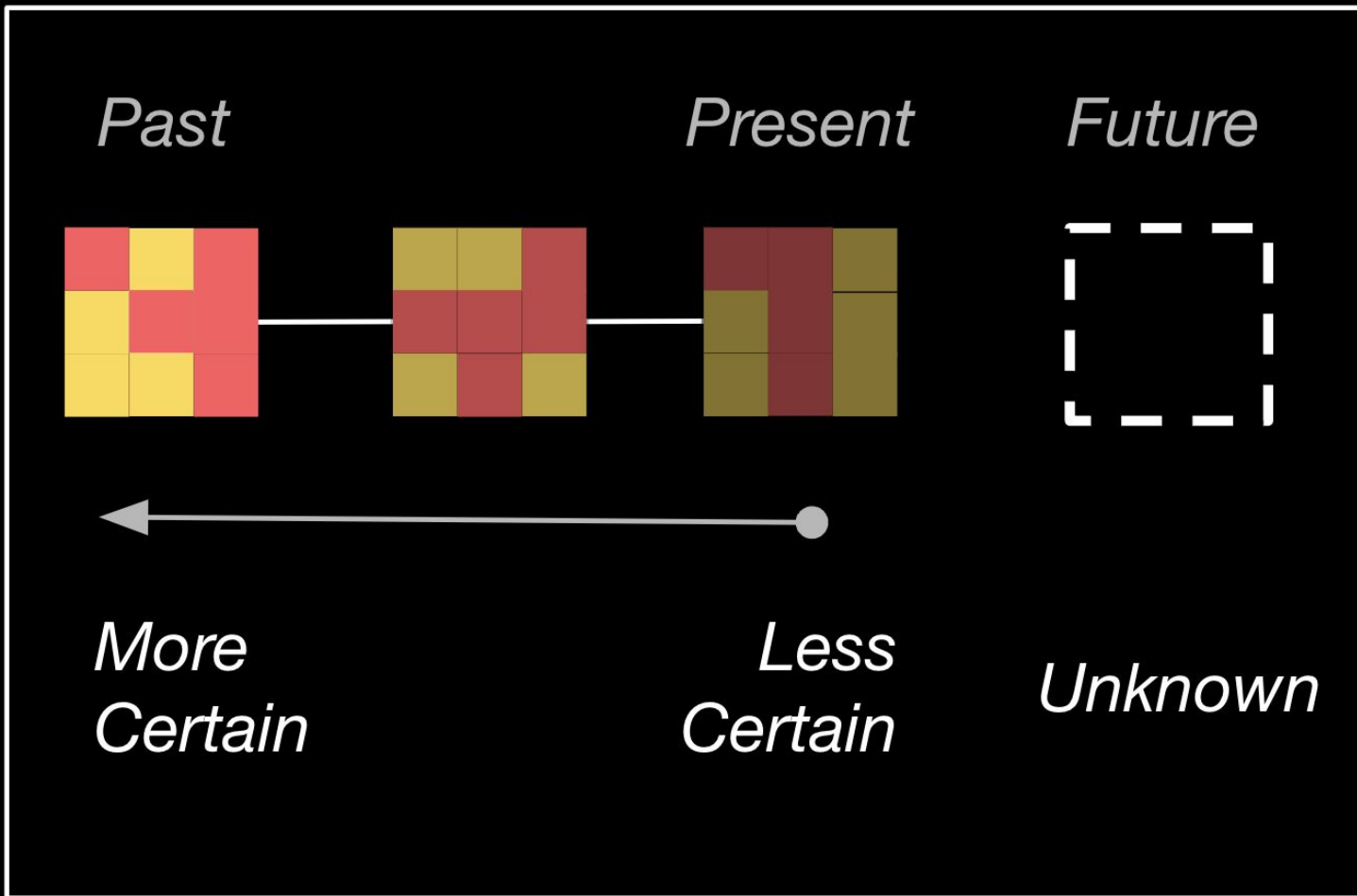


THERMODYNAMICS 2ND LAW

BITCOIN
ESSENTIAL
CONCEPTS



*The entropy of the universe
always increases with time.*



ARROW OF TIME

BITCOIN
ESSENTIAL
CONCEPTS



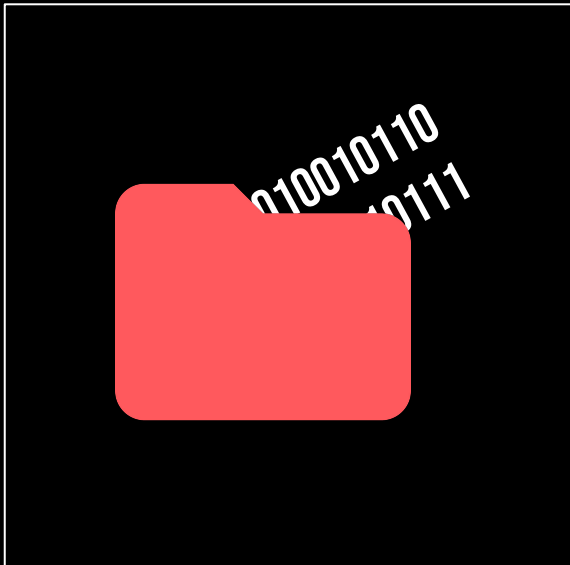
Establishing the one-way direction of time by distinguishing past from present.

@anilsaidso

INFORMATION THEORY



BITCOIN
ESSENTIAL
CONCEPTS



*How digital information is
communicated, stored,
and quantified.*

COMMUNICATIONS SYSTEM

Produces a message

INFORMATION SOURCE



Converts into a signal

TRANSMITTER

Channel transports signal



Reconstructs msg from signal

RECEIVER



Intended recipient

DESTINATION

NOISE

Interference

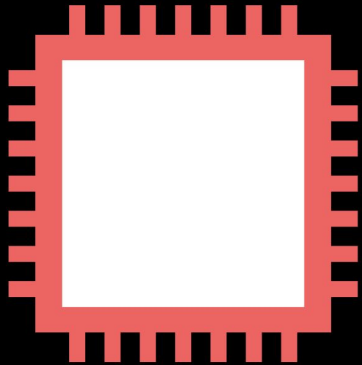
Adapted from *A Mathematical Theory of Communication* by Claude Shannon (1949).

"The fundamental problem of communication is that of reproducing at one point, either exactly or approximately, a message selected at another point."

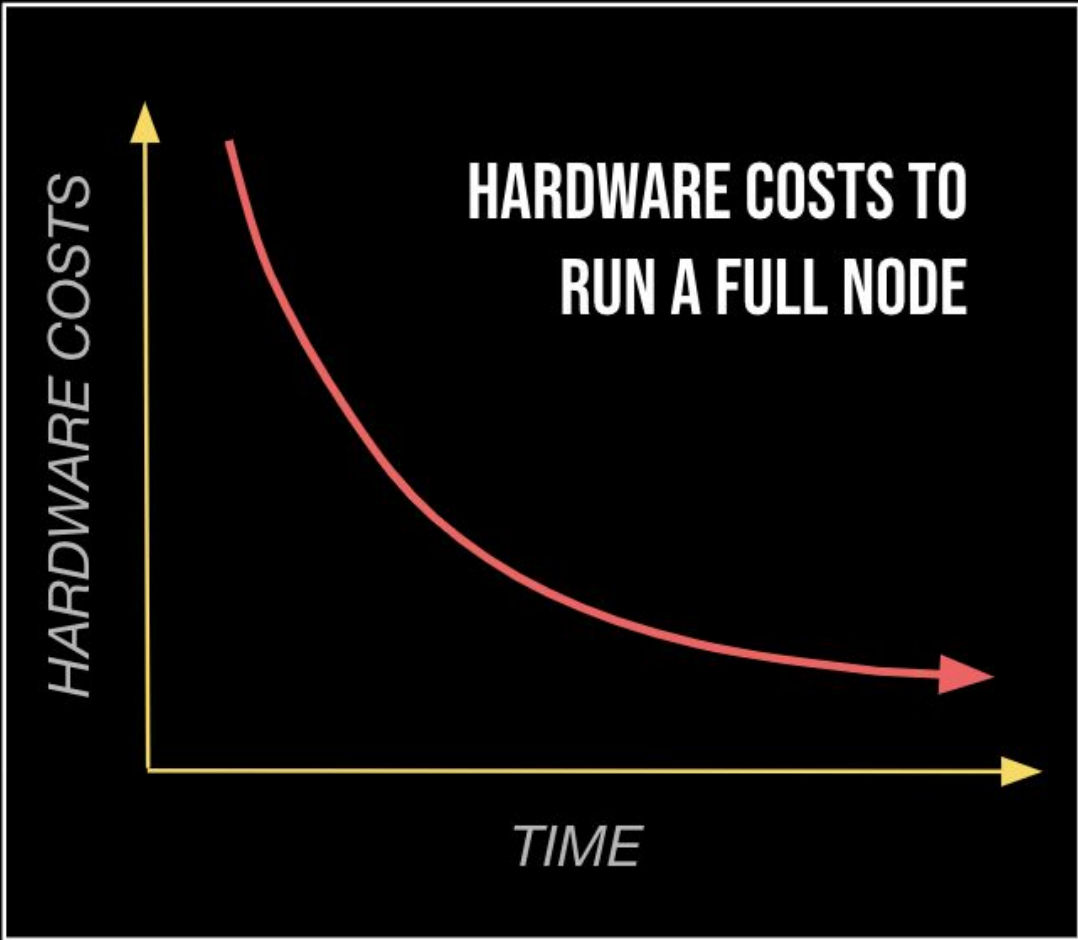
—CLAUDE SHANNON

MOORE'S LAW

BITCOIN
ESSENTIAL
CONCEPTS

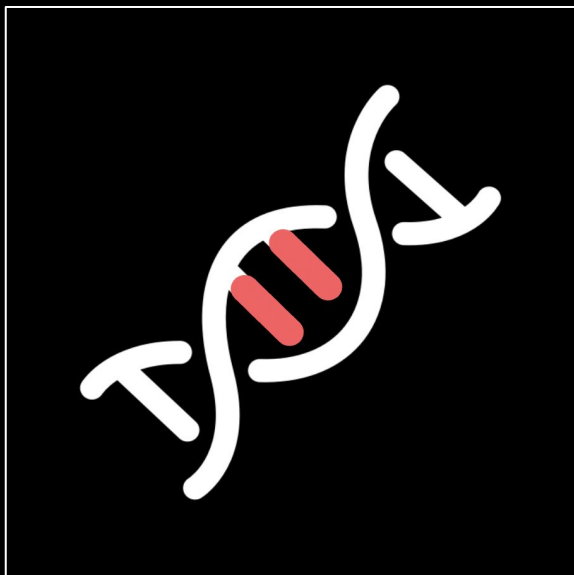


The observation that the number of transistors on a computer chip doubles approximately every two years



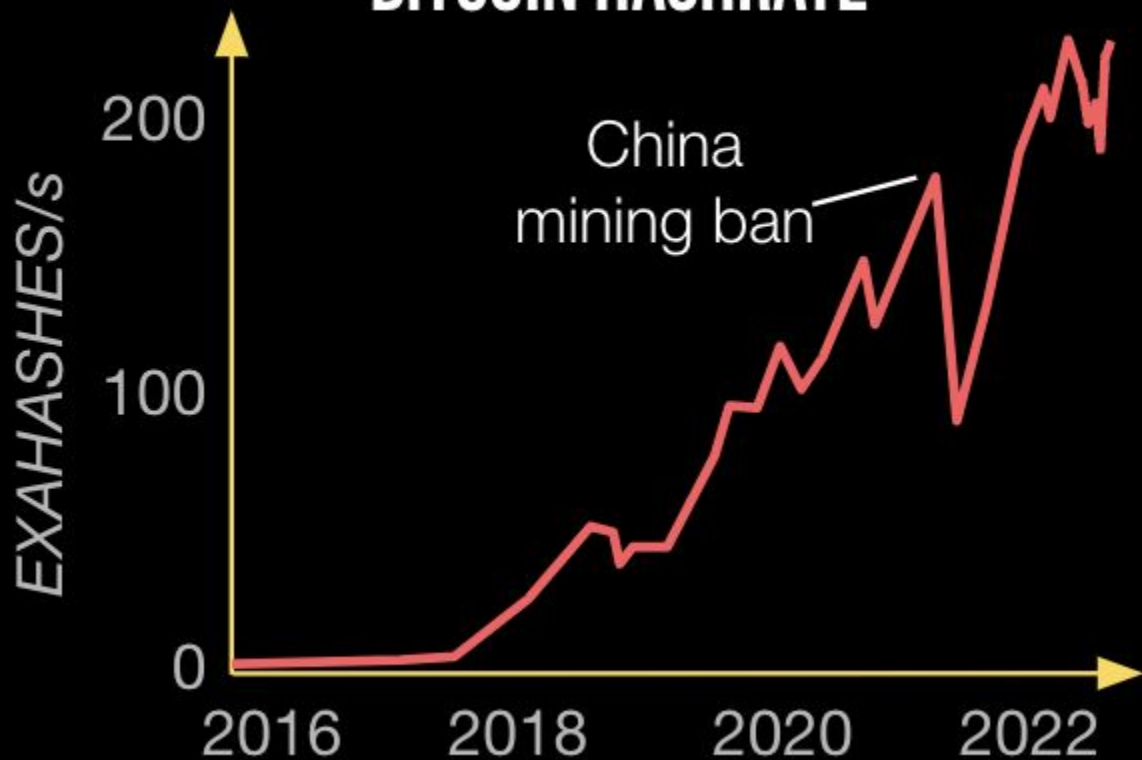
ANTIFRAGILITY

BITCOIN
ESSENTIAL
CONCEPTS



Things that actively gain from volatility and unpredictability by using rapid feedback loops to evolve

BITCOIN HASHRATE



GALL'S LAW

BITCOIN
ESSENTIAL
CONCEPTS



Incremental improvements made to a functional system is a superior strategy to building a complex system from scratch

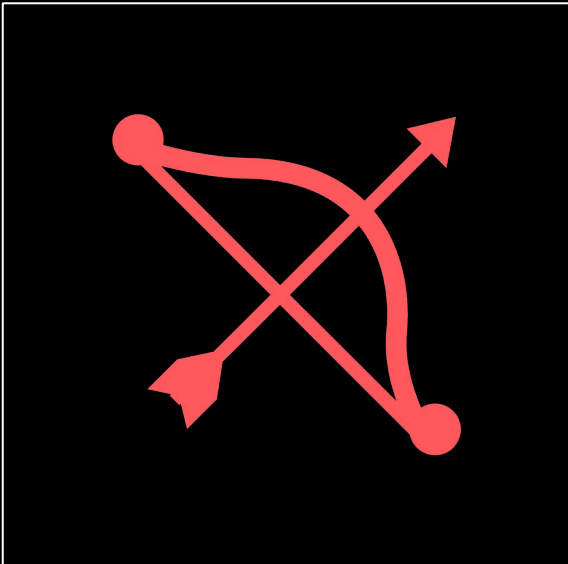
*“Bitcoin is too important to follow the Silicon Valley mantra of move fast and break things. Instead, it’s move slowly and don’t break **anything**.”*

If a global financial system is to be built on a decentralized monetary system, the foundation must be protected at all cost.”

—PARKER LEWIS

ATTACK SURFACE

BITCOIN
ESSENTIAL
CONCEPTS



The sum of all potential vulnerabilities from all potential access points

```
CAmount GetBlockSubsidy(int nHeight, const
Consensus::Params& consensusParams)
{
    int halvings = nHeight /
consensusParams.nSubsidyHalvingInterval;
    // Force block reward to zero when right shift is
undefined.
    if (halvings >= 64)
        return 0;

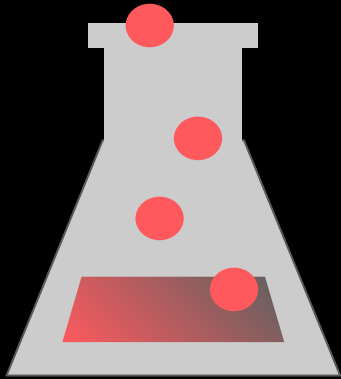
    CAmount nSubsidy = 50 * COIN;
    // Subsidy is cut in half every 210,000 blocks which
will occur approximately every 4 years.
    nSubsidy >>= halvings;
    return nSubsidy;
}
```

“Being open source means anyone can independently review the code. If it was closed source, nobody could verify the security.”

—SATOSHI NAKAMOTO

CATALYSTS

BITCOIN
ESSENTIAL
CONCEPTS



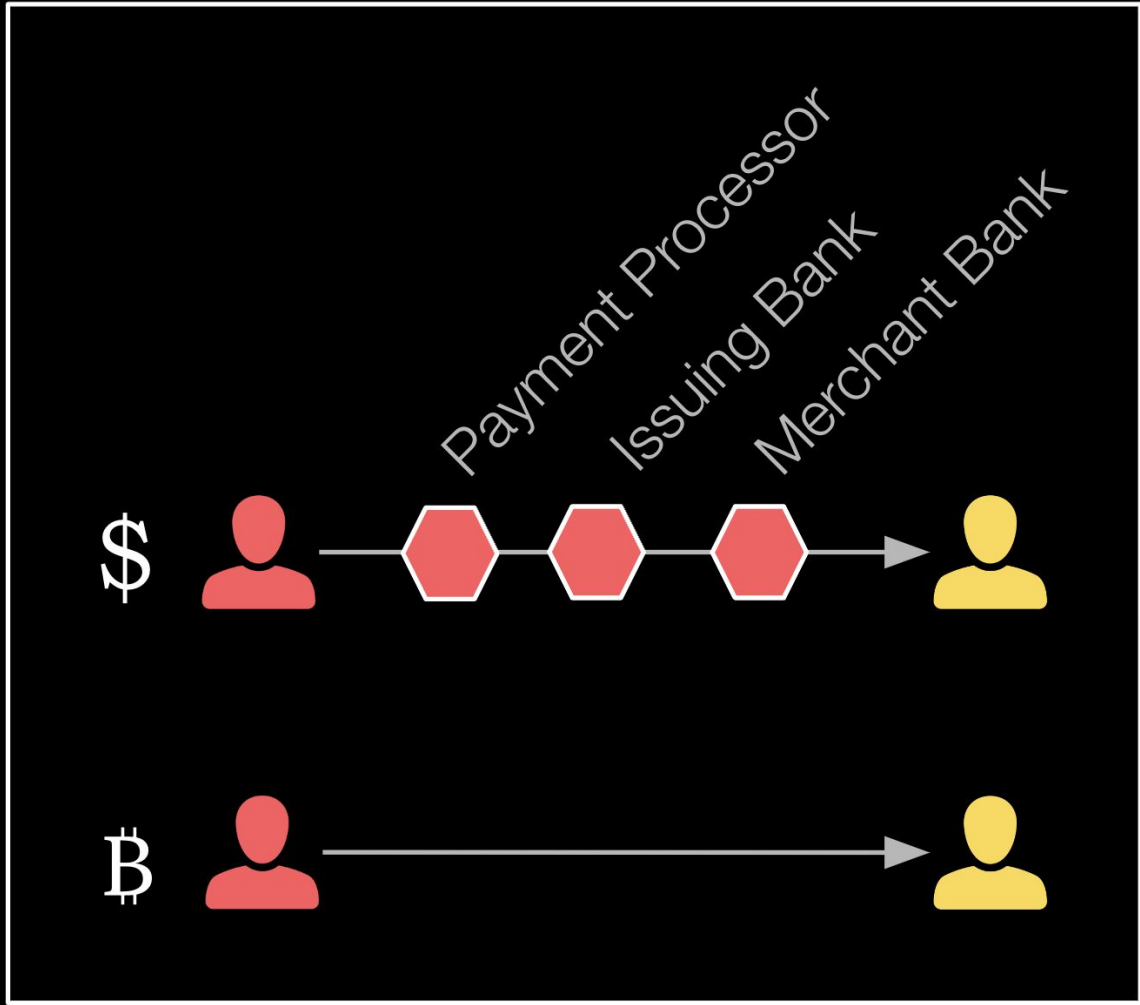
*Kick-starts a reaction
but isn't itself a reactant*

FRICTION

BITCOIN
ESSENTIAL
CONCEPTS



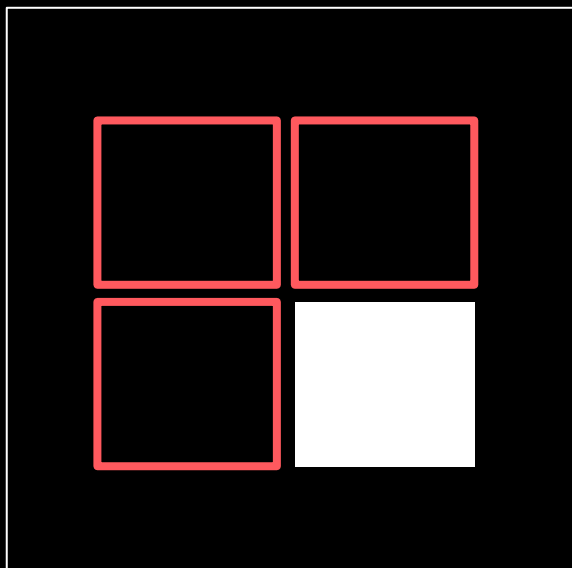
A force that opposes the relative movement of something



Psychology

PRISONER'S DILEMMA

BITCOIN
ESSENTIAL
CONCEPTS



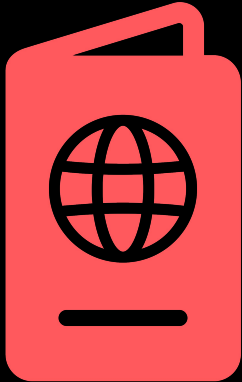
Using math to determine if it's better to cooperate or compete in multiplayer games

“If bitcoin adoption increases, the countries that secure some bitcoin today will be better off competitively than their peers. Therefore, even if other countries do not believe in the investment thesis.., they will be forced to acquire some as a form of insurance.”

—CHRIS KUIPER & JACK NEUREUTER

JURISDICTIONAL ARBITRAGE

BITCOIN
ESSENTIAL
CONCEPTS



*Taking advantage of
discrepancies between
competing legal jurisdictions*

SOCIAL PROOF

BITCOIN
ESSENTIAL
CONCEPTS



In uncertain situations we look to those we deem knowledgeable or competent for guidance

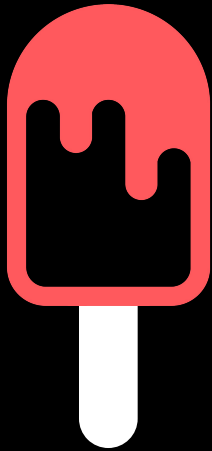
@anilsaidso

*“Paul Tudor Jones validates
it for other hedge fund managers, hedge fund
managers validate it for sovereign-wealth funds,
sovereign-wealth funds will validate it for
central banks.”*

—NAVAL RAVIKANT

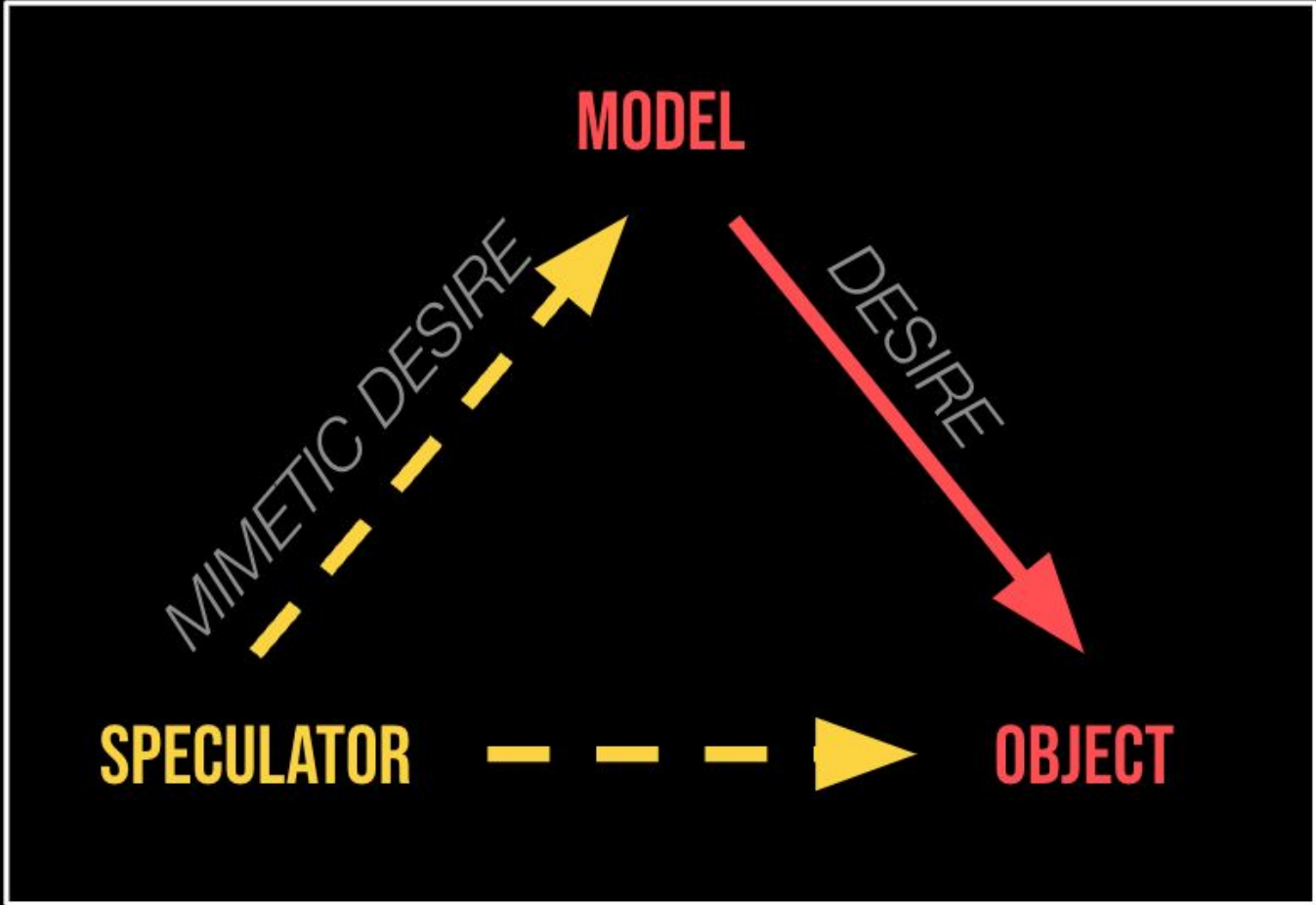
MIMETIC THEORY

BITCOIN
ESSENTIAL
CONCEPTS



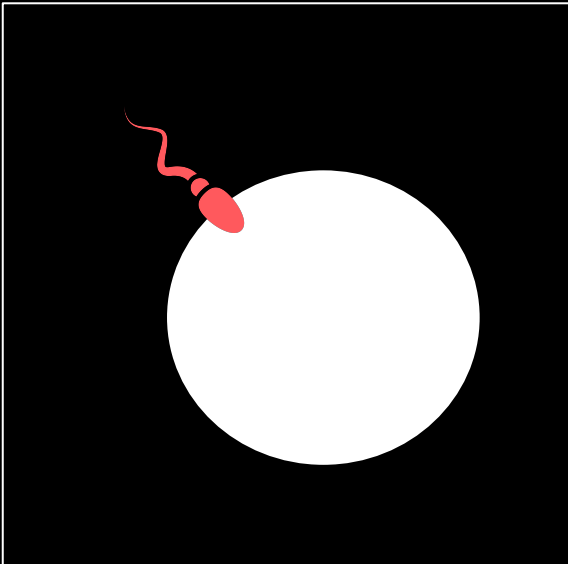
*Our desires are not intrinsic,
but derived from the desires
of others that we seek to
imitate*

@anilsaidso



FIRST CONCLUSION BIAS

BITCOIN
ESSENTIAL
CONCEPTS



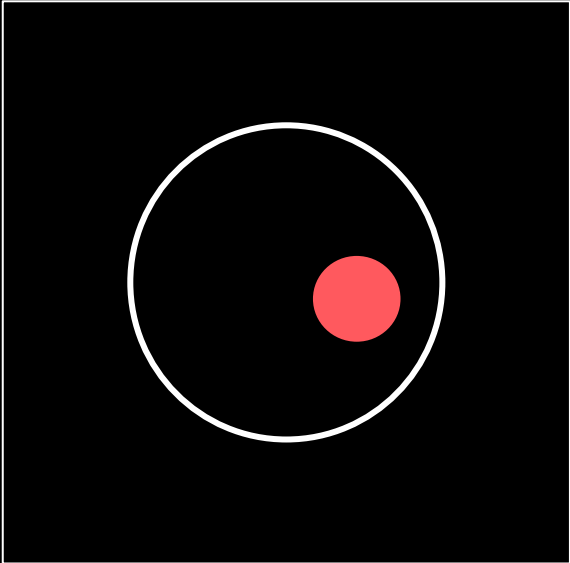
The tendency to accept the first answer offered, regardless of correctness, shutting out any further inquiry or debate

*“The mind works a bit like a sperm and egg:
the first idea gets in and then the mind shuts...
leads us to accept many erroneous results.”*

—CHARLIE MUNGER

CIRCLE OF COMPETENCE

BITCOIN
ESSENTIAL
CONCEPTS



*Understanding where your
knowledge is lacking will
illuminate where you're
vulnerable*

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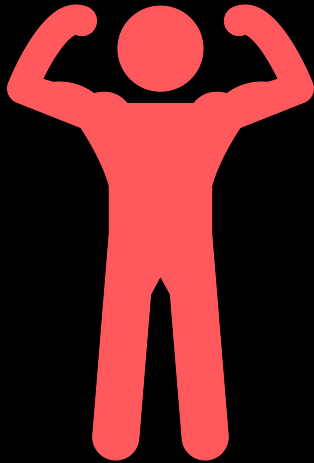
**WHAT YOU
THINK YOU
KNOW**



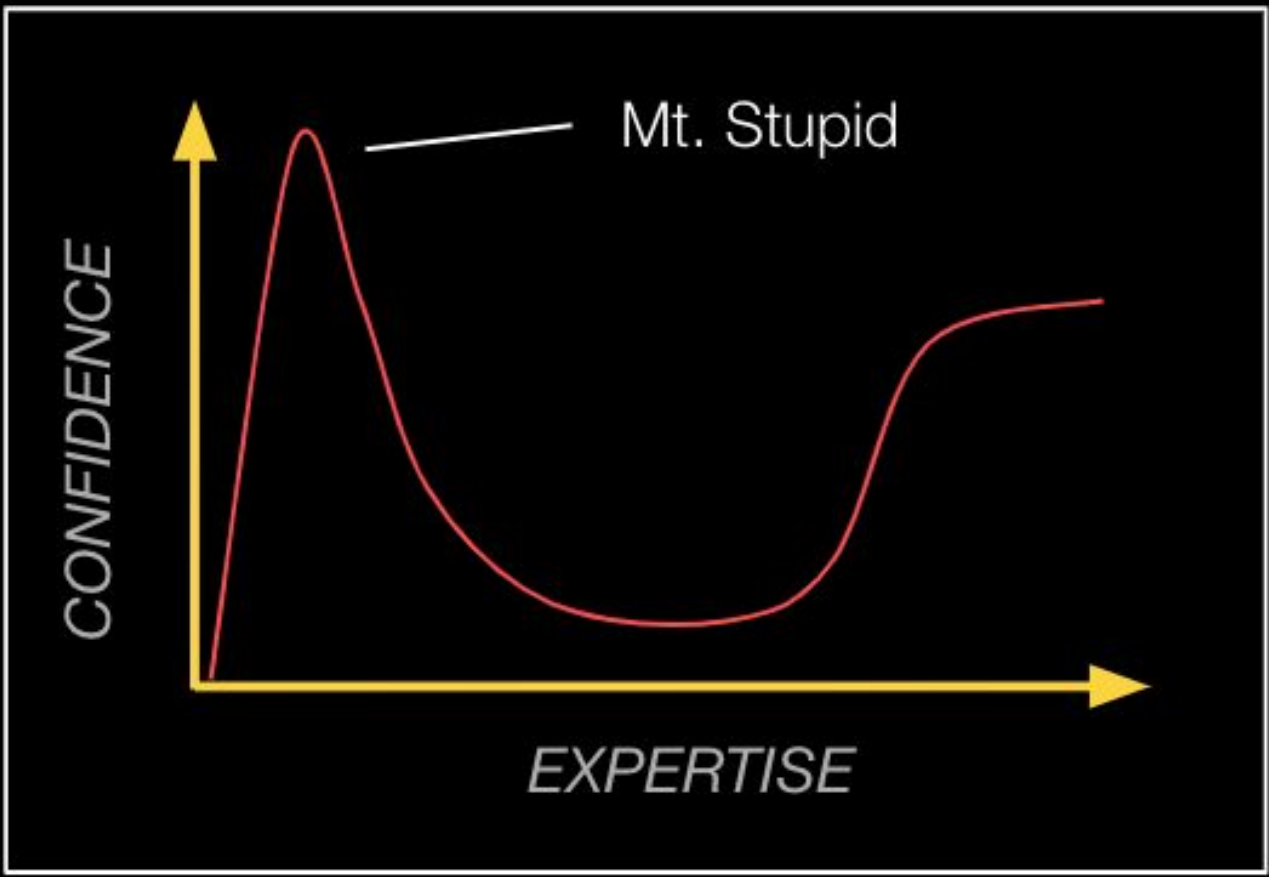
**WHAT YOU
ACTUALLY
KNOW**

DUNNING-KRUGER EFFECT

BITCOIN
ESSENTIAL
CONCEPTS

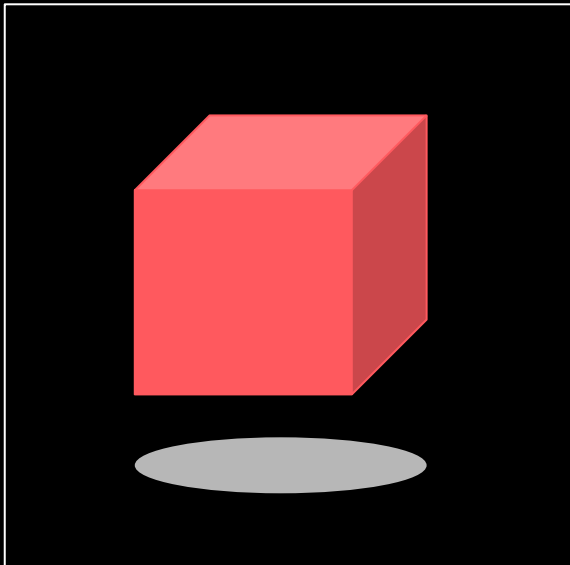


*Overestimating your
knowledge in a specific area
leads to erroneous decisions*



CATEGORY ERROR

BITCOIN
ESSENTIAL
CONCEPTS



Assuming an individual property of something is representative of its whole, leading to misattribution

Store of Value

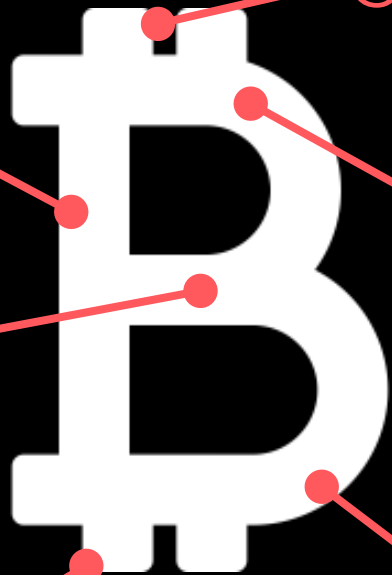
Commodity

Payment Rail

Unit of Account

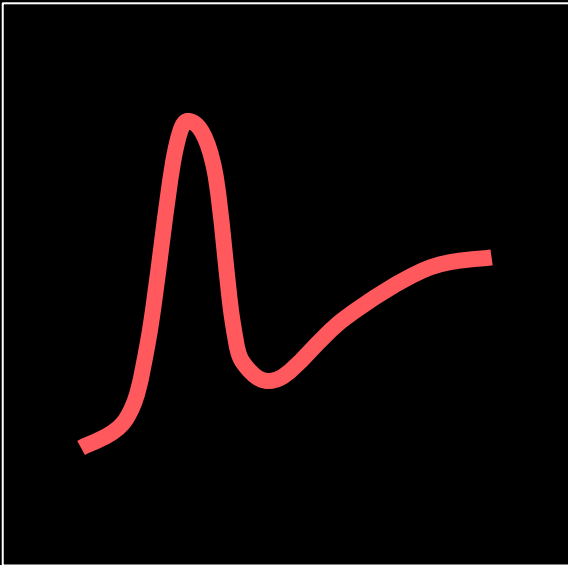
Software

Network



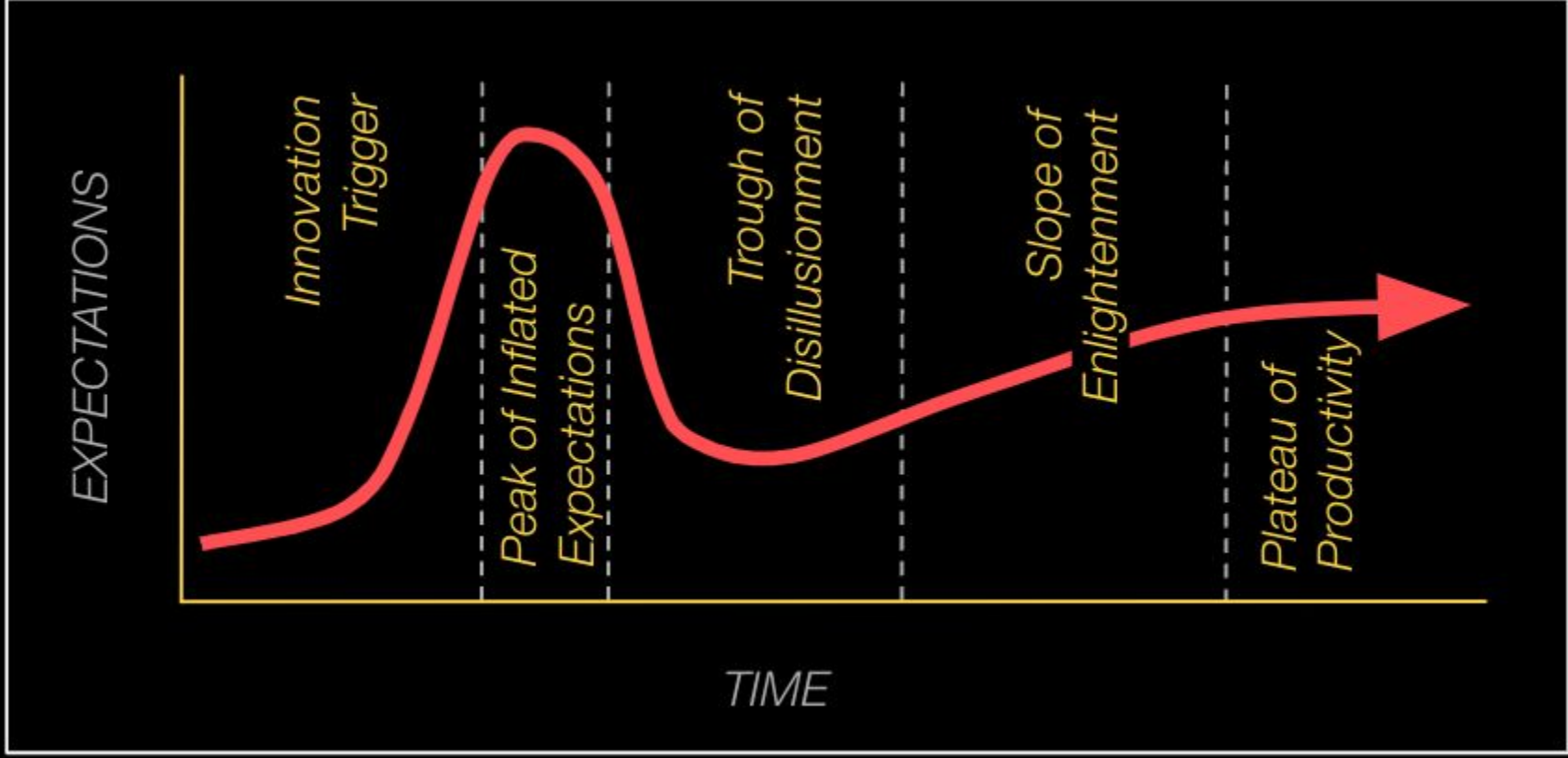
GARTNER HYPE CYCLE

BITCOIN
ESSENTIAL
CONCEPTS



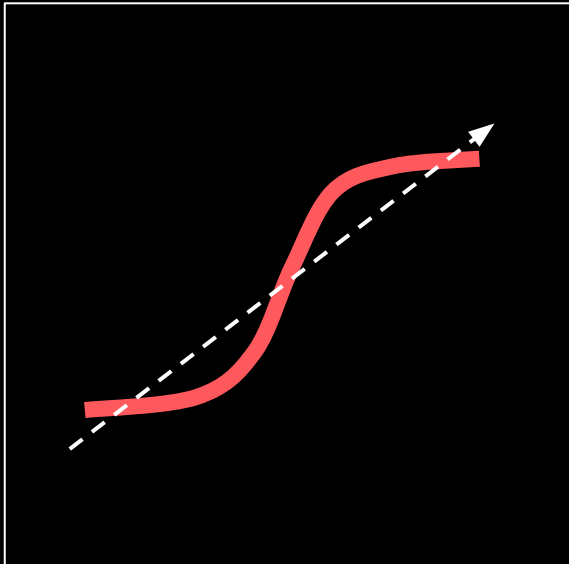
*A methodology for ascertaining
the maturity and adoption of
new technologies and
applications*

@anilsaidso



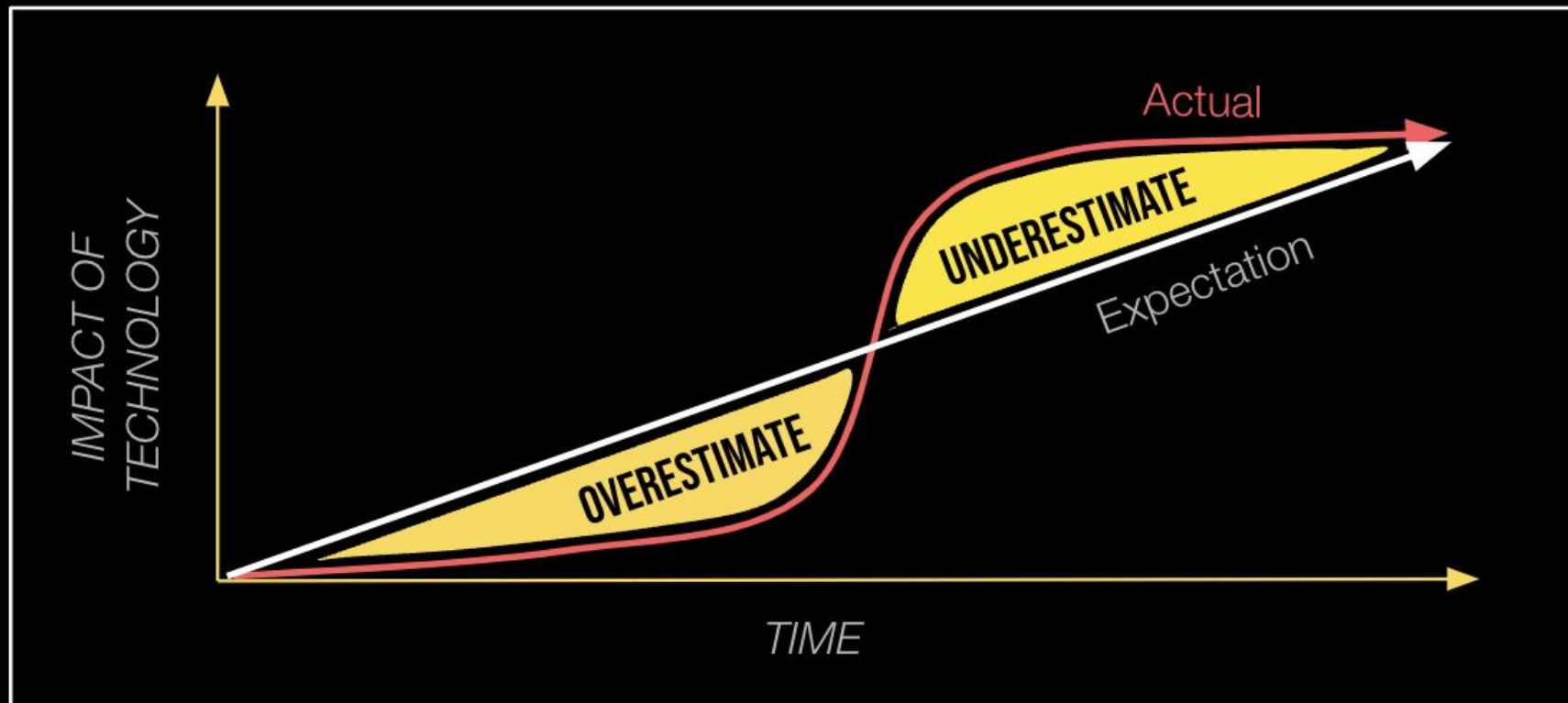
AMARA'S LAW

BITCOIN
ESSENTIAL
CONCEPTS



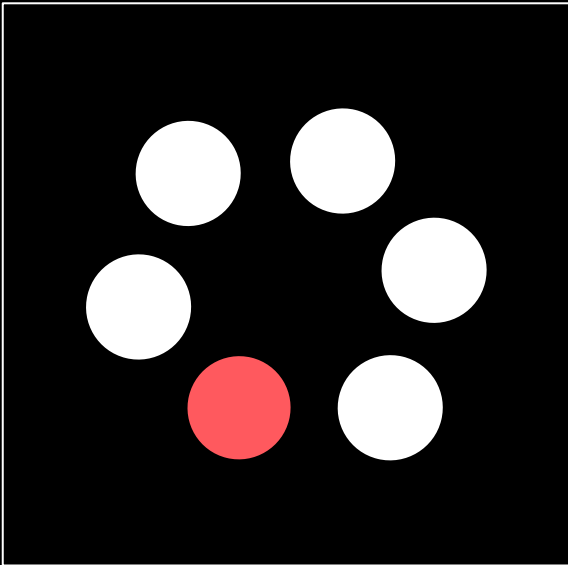
We tend to overestimate the impact of new technologies in the short term and underestimate it in the long term

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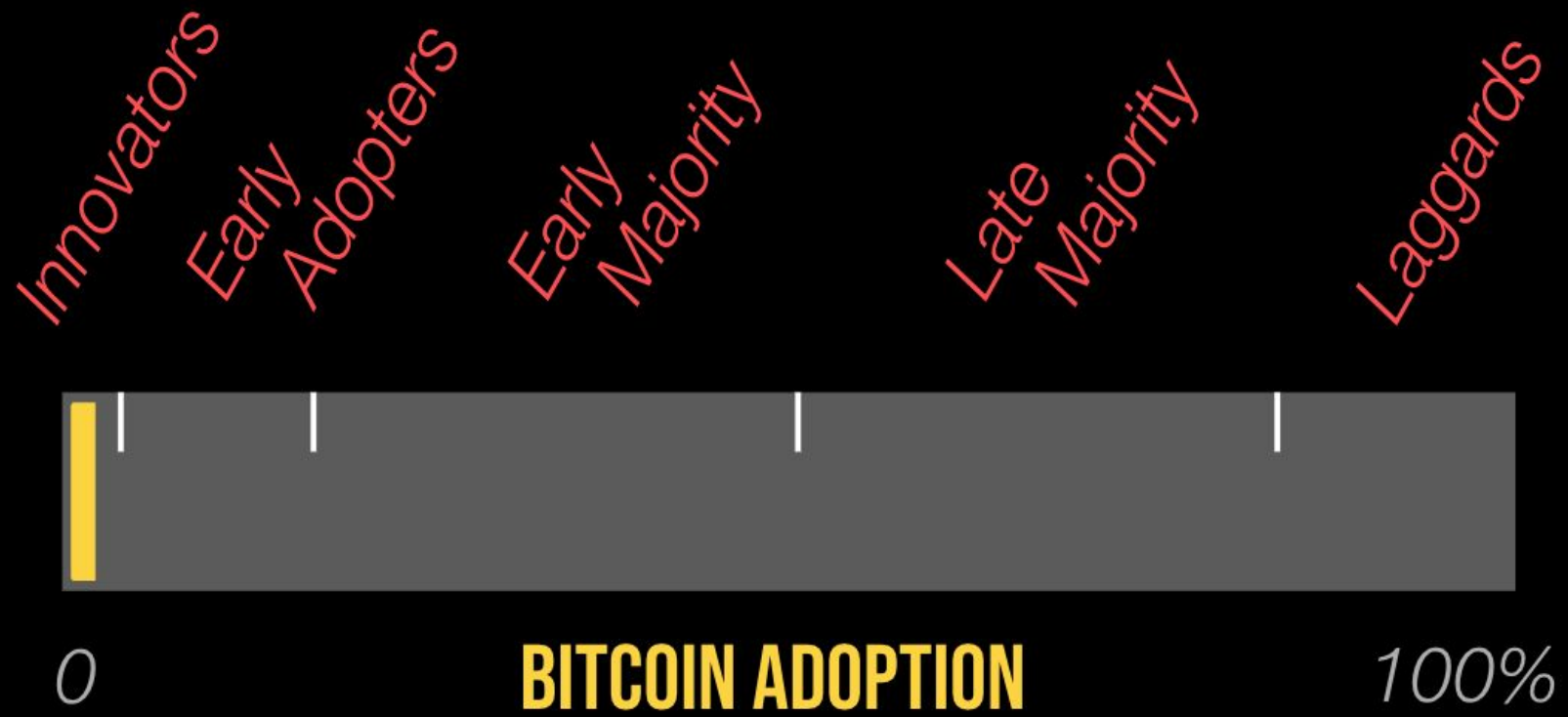
INTRANSIGENT MINORITY

BITCOIN
ESSENTIAL
CONCEPTS



When a few individuals shape the preferences of the majority by their unwillingness to submit to the default option

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INEQUIVALENCE THEOREM

BITCOIN
ESSENTIAL
CONCEPTS



When economic conditions become excessively burdensome, individuals with the capacity will permanently exit a jurisdiction



“In the Information Age.. the rational person will not respond to the prospect of higher taxes to fund deficits..

Sovereign individuals and other rational people will flee jurisdictions with large unfunded liabilities.”

—JAMES DALE DAVIDSON & WILLIAM REES-MOGG

GELL-MANN AMNESIA

BITCOIN
ESSENTIAL
CONCEPTS



Observing errors in reporting of a topic, yet trusting the same source in areas where you are less knowledgeable

Newsweek

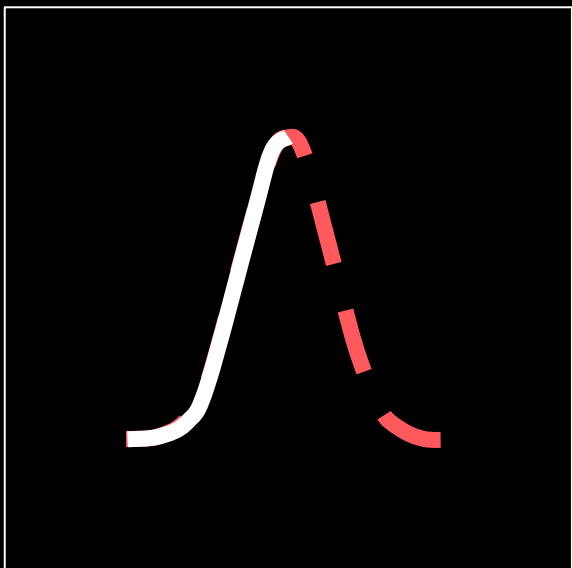
**Bitcoin Mining on Track to
Consume All of the World's
Energy by 2020**

ANTHONY CUTHBERTSON 12/11/17



THE LINDY EFFECT

BITCOIN
ESSENTIAL
CONCEPTS



The theory that the lifespan of non-perishable things are proportional to their current age

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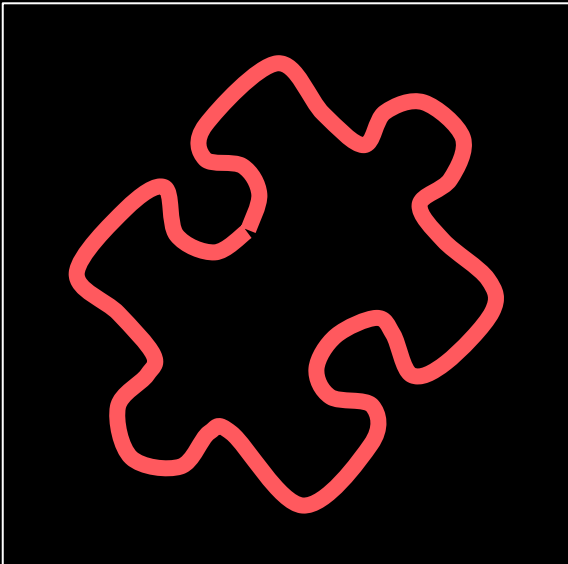
3,468

**DAYS SINCE THE BITCOIN
NETWORK HAS BEEN DOWN**

As of 8 September 2022

EMERGENCE

BITCOIN
ESSENTIAL
CONCEPTS



When novel dynamic structures arise from the interaction of individual components and becomes self-regulating

“Bitcoin is currently transitioning from the first stage of monetization to the second stage.. No one alive has seen the real-time monetization of a good (as is taking place with Bitcoin), so there is precious little experience regarding the path this monetization will take.”

—VIJAY BOYAPATI

COLLECTIBLE

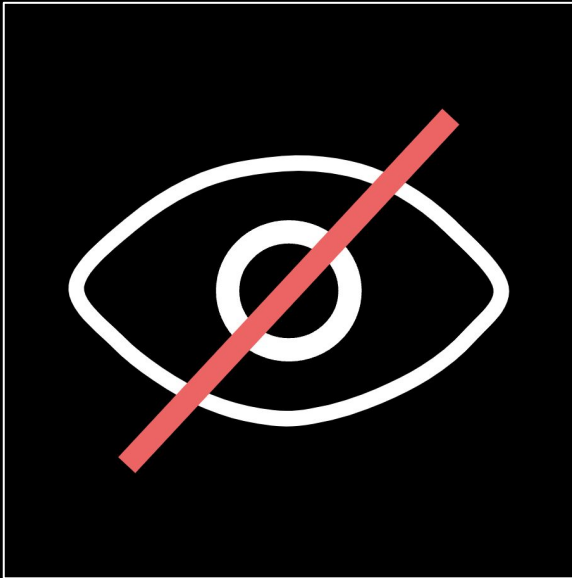
**STORE OF
VALUE**

**MEDIUM OF
EXCHANGE**

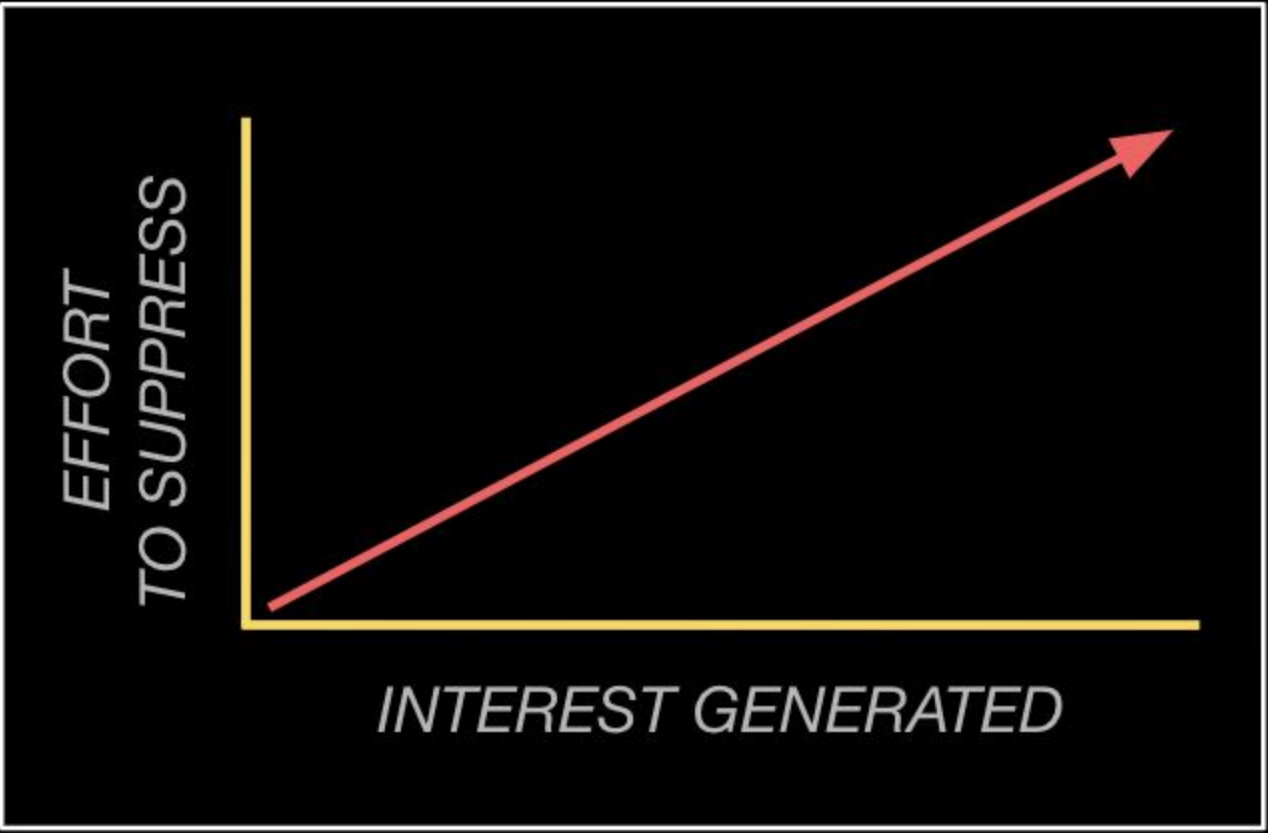
**UNIT OF
ACCOUNT**

STREISAND EFFECT

BITCOIN
ESSENTIAL
CONCEPTS

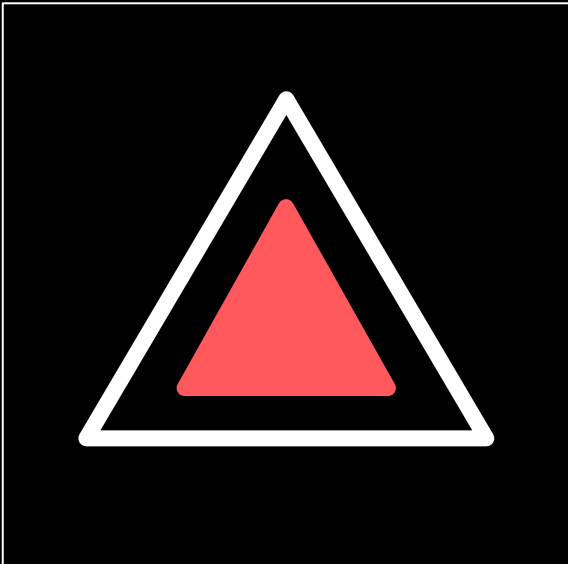


Attempting to hide, remove, or censor something has the unintended consequence of publicizing it more widely

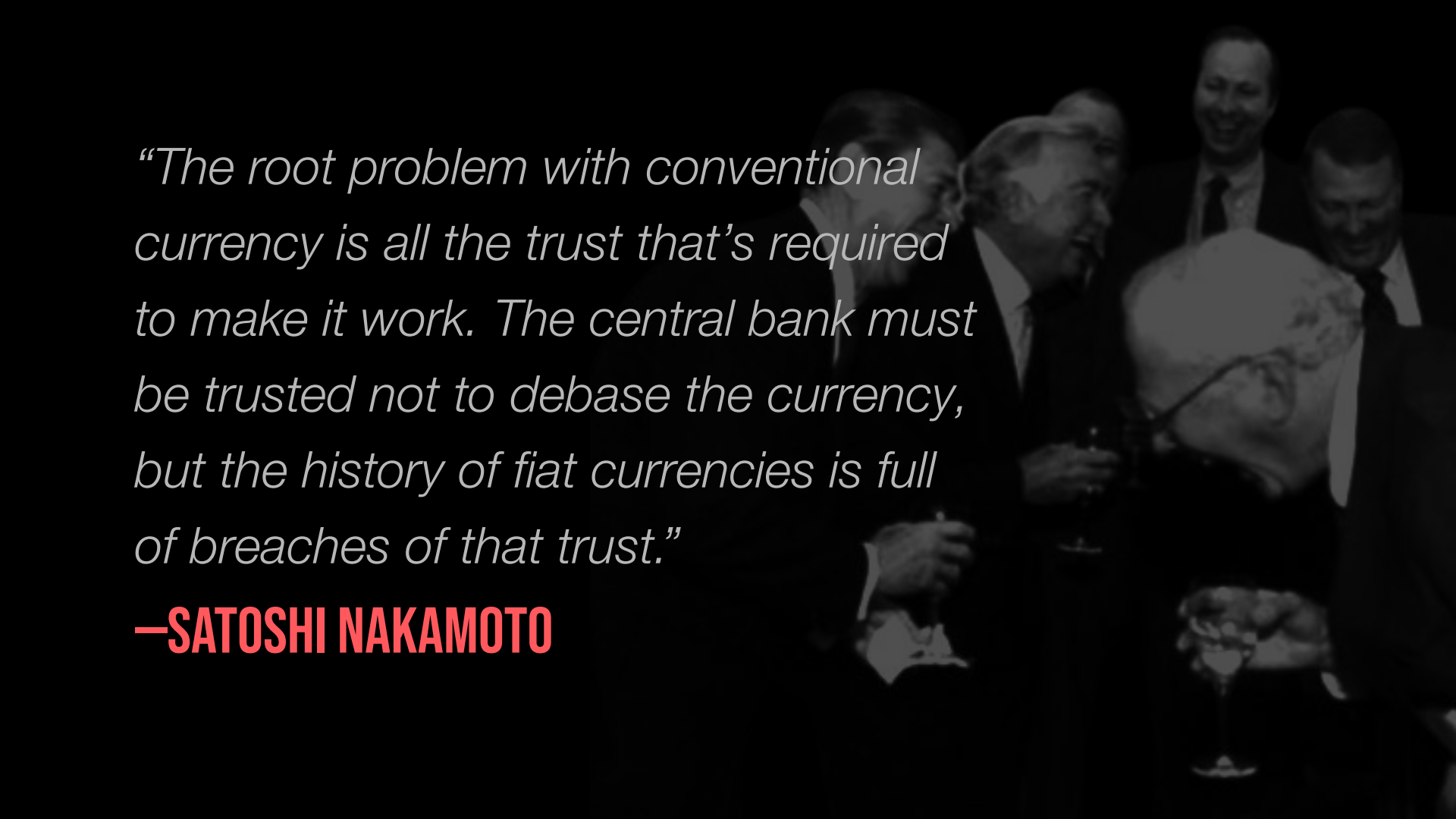


MORAL HAZARD

BITCOIN
ESSENTIAL
CONCEPTS



When a party has a duty to serve the interests of others, but instead places its own interests first

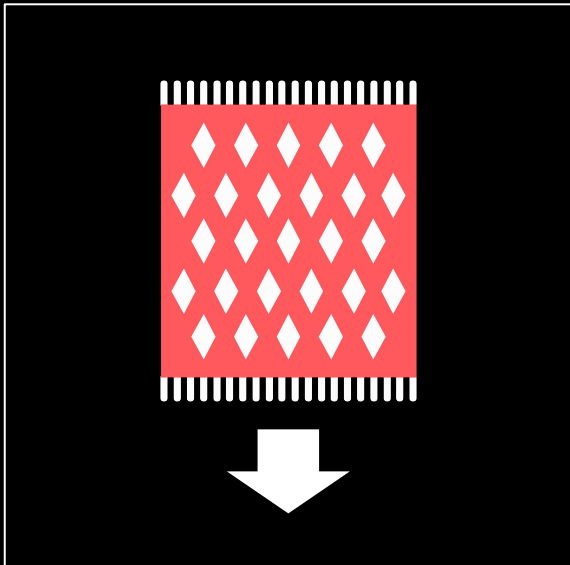
A black and white photograph of a group of men in suits at a social gathering. One man in the foreground is holding a large white object, possibly a gift or a document. The background is dark, and the overall atmosphere is formal yet social.

“The root problem with conventional currency is all the trust that’s required to make it work. The central bank must be trusted not to debase the currency, but the history of fiat currencies is full of breaches of that trust.”

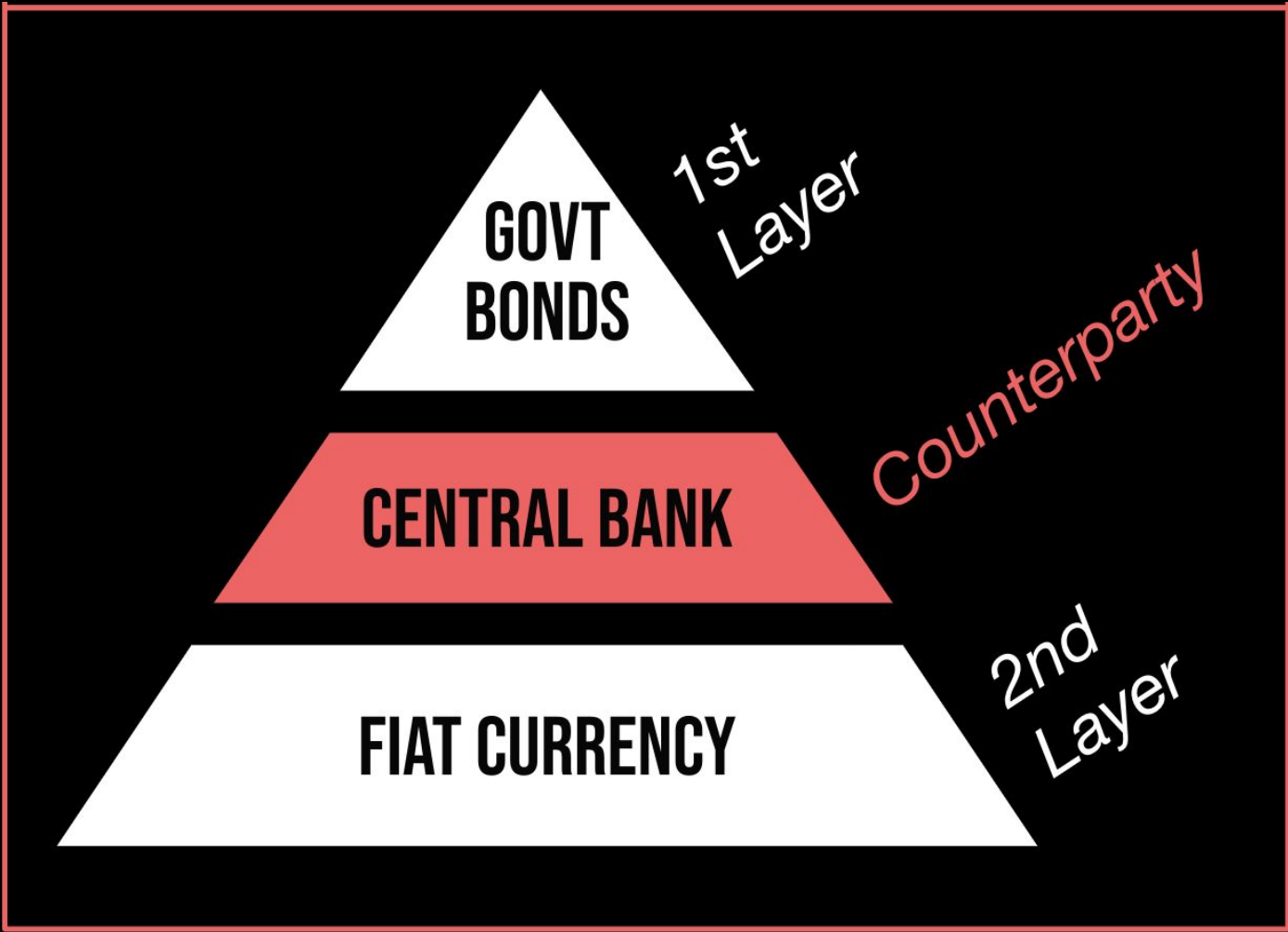
—SATOSHI NAKAMOTO

COUNTERPARTY RISK

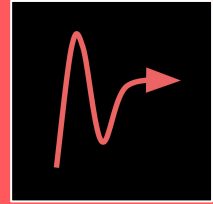
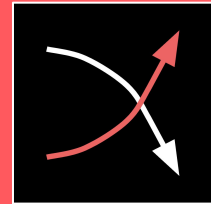
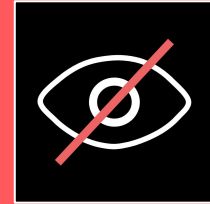
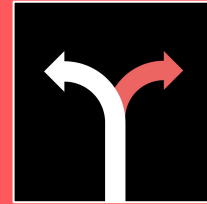
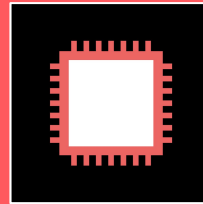
BITCOIN
ESSENTIAL
CONCEPTS



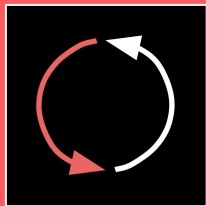
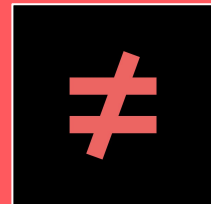
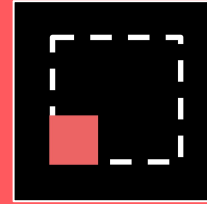
The likelihood of a party defaulting on its obligation in a transaction



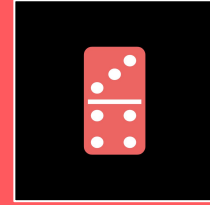
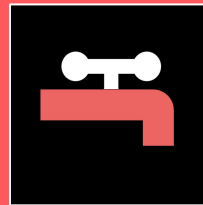
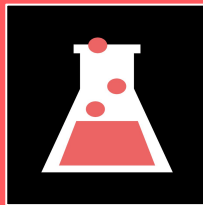
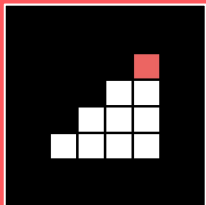
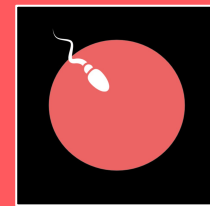
BITCOIN'S



ESSENTIAL



CONCEPTS



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