

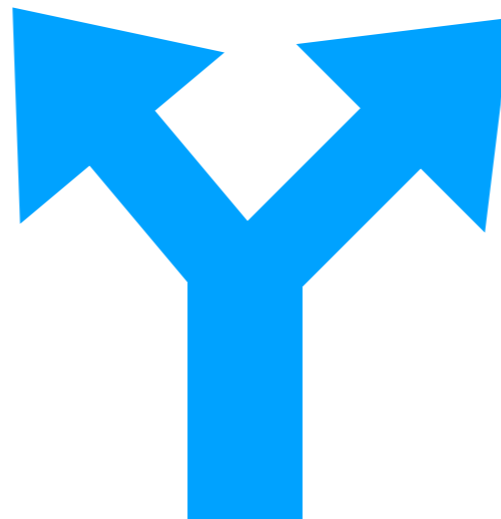
Forks and Governance

November 6, 2019

What is a Fork?

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- Divergence in view of the blockchain
- Just like a fork in Github, except you usually don't want a fork in a blockchain
 - Why?



What Causes a Fork?

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- Can be consequence of protocol rules or consequence of flouting the rules
- In-protocol example: Different people see different longest chain even though all trying to follow Nakamoto consensus
- Other example: Change to block size

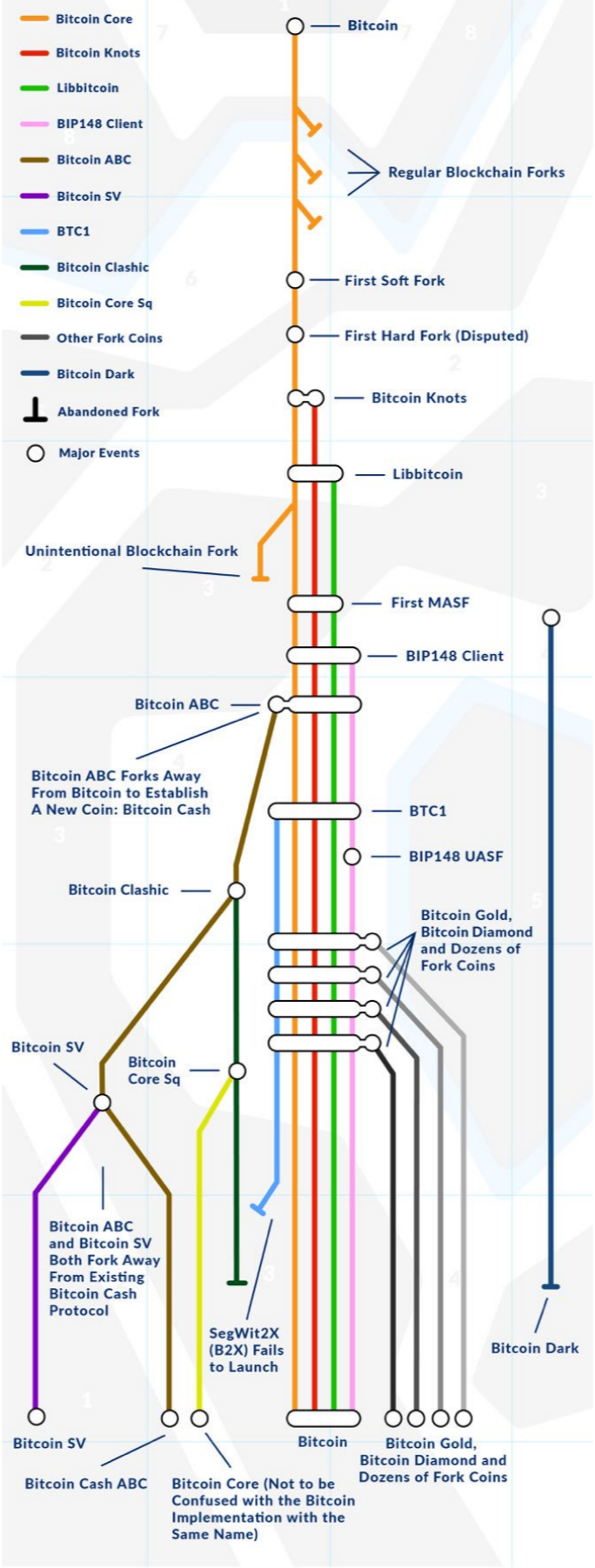
Hard Fork vs. Soft Fork

Hard Fork vs. Soft Fork

Comes down to whether old clients still work with new blocks (soft fork) or do not work with new blocks (hard fork)

What happens if there is a fork?

BITCOIN A MAP OF BITCOIN FORKS



**What happens if you own cryptocurrency on a
blockchain that is forked?**

What is Governance?

“The processes of interaction and decision-making among the actors involved in a collective problem that lead to the creation, reinforcement, or reproduction of social norms and institutions.”

Blockchain Governance

- “Code = Law”?
 - No!
- Consensus vs. governance
 - Decision vs. Mechanism of deciding decision
 - Transaction block vs. Block size

Differences from Non-blockchain Governance

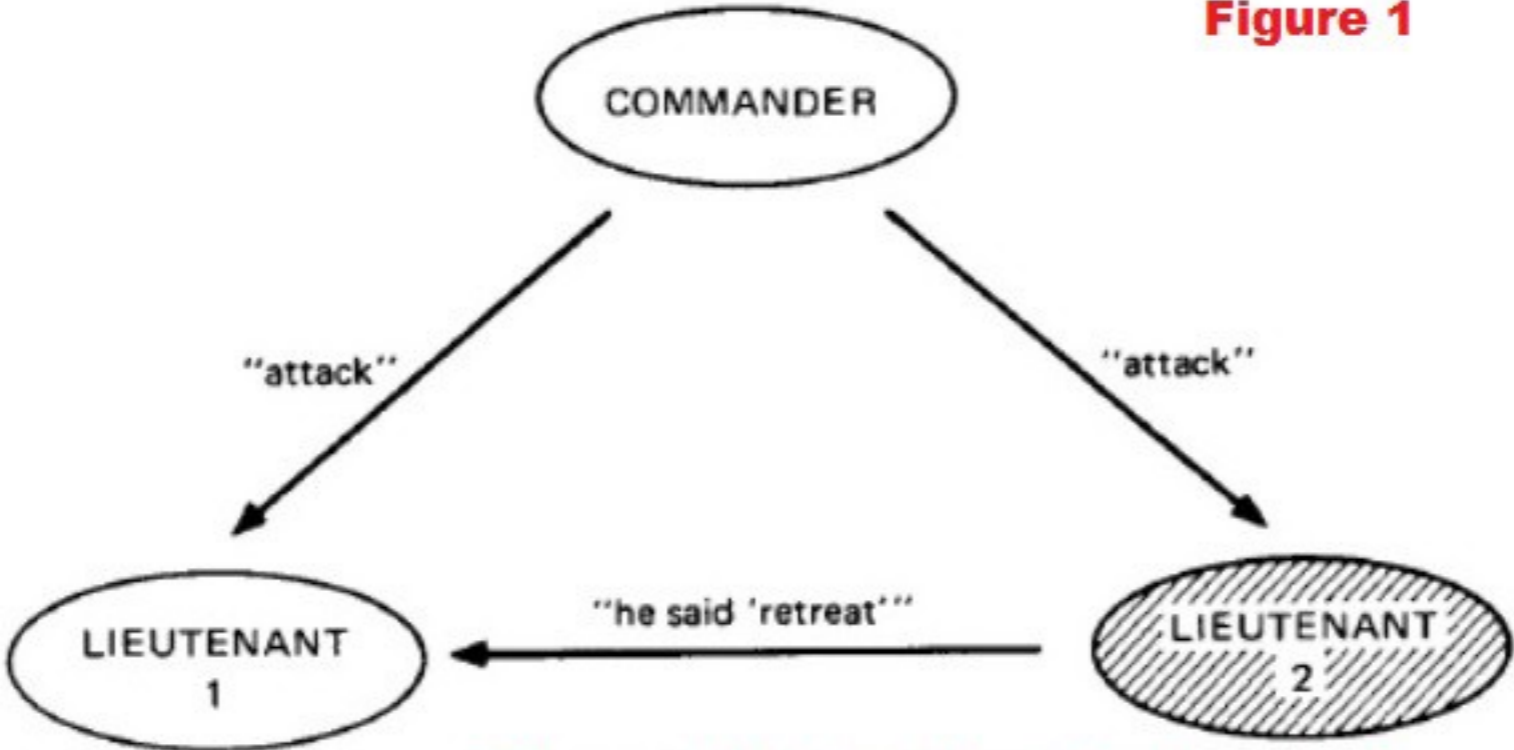
- No connection to real individuals (at least today)
 - Means no “1 person = 1 vote”
- Sybil attacks
- Domain of applicability

- Consensus
- On-chain governance
- Off-chain governance (phone call governance)

Consensus

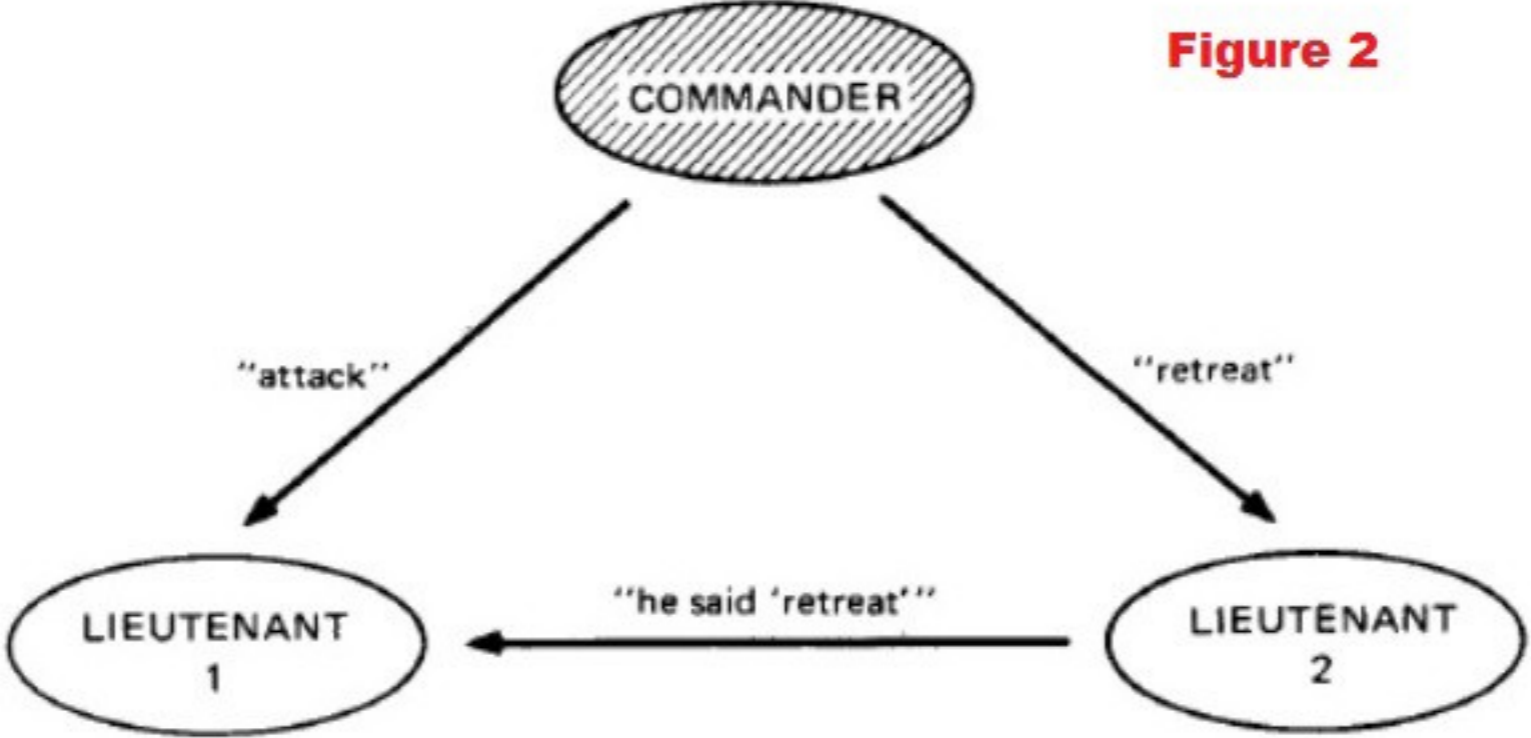
- Nakamoto
- Proof of stake
 - Variants include use of sortition
- “Avalanche”
- BFT

Figure 1



The one with stripes is the traitor because of which a consensus cannot be reached

Figure 2



On-Chain Governance

On-Chain Governance

- Tezos: Code is literally voted upon
- MKR: Governance token
- DAOs: Decentralized autonomous organizations
- Decentraland: VR districts

Off-Chain Governance

- “Real politik”
- Blockchain does not exist in a vacuum
- Bitcoin!

Fork = Exit

- A minority can always escape
- This also gives an incentive to the majority to be reasonable

Real Law

- What is the legal status of “smart contracts?”
- Where does the jurisdiction of courts end and blockchains begin?
- Not to mention rules around security sales, etc.

Conclusion

- Much interesting experimentation around *mechanisms* for governance
- But also confusion around that governance being ultimate
- Governance depends on the consent of the governed.
Blockchain mechanisms are norms, not etched in stone
- Good playground as long as we remember the broader context