CMPSC 390
Security. Community and Regulations.

Janyl Jumadinova

Credit: Authors of "Mastering Bitcoin" and "Bitcoin and Cryptocurrency Technologies"

February 2, 2021

Security, Chapter 11 in MB

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- *Balancing risk*: storage, multisig, diversification, survivability.

Consensus in Bitcoin

consensus about rules

- what makes a transaction valid
- what makes a block valid
- how P2P nodes should behave
- protocols and formats

Consensus in Bitcoin

consensus about rules

consensus about history

Agree on contents of the blockchain

therefore: which transactions have occurred

therefore: which coins exist and who owns them

Consensus in Bitcoin

consensus about rules

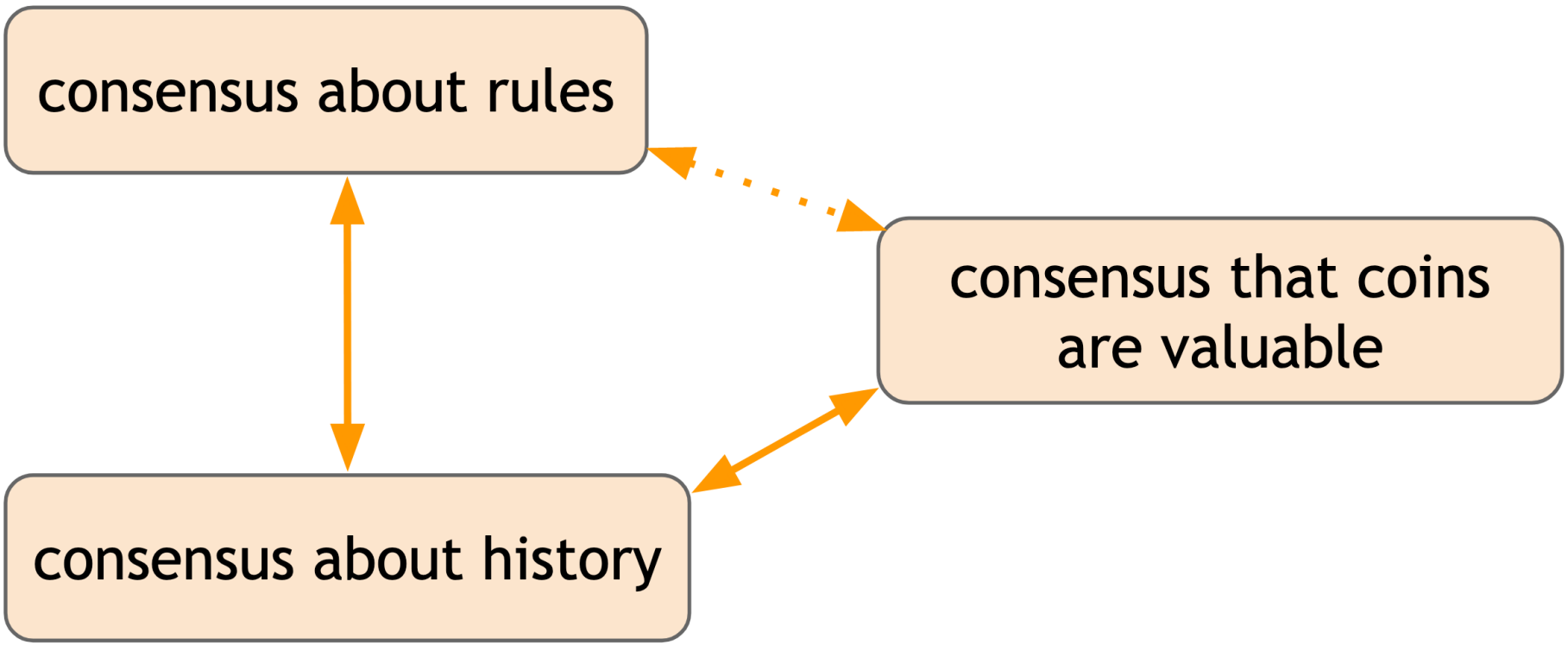
consensus about history

consensus that coins are valuable

General agreement that coins have value.

"Tinkerbell effect"

Consensus in Bitcoin



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https://bitcoincore.org/

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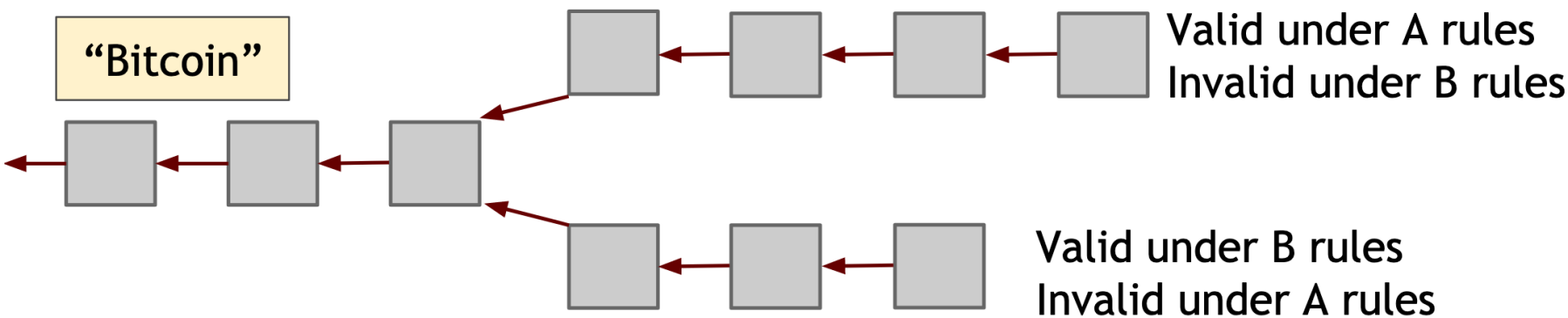
If there's a (hard) fork in the rules:



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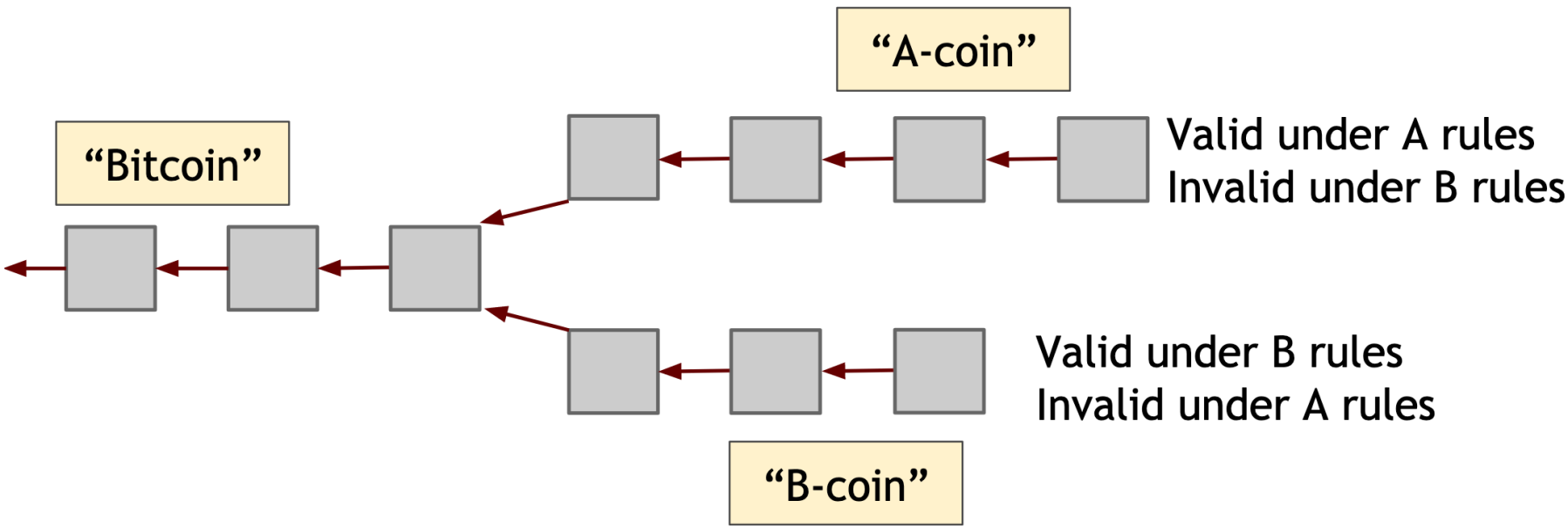

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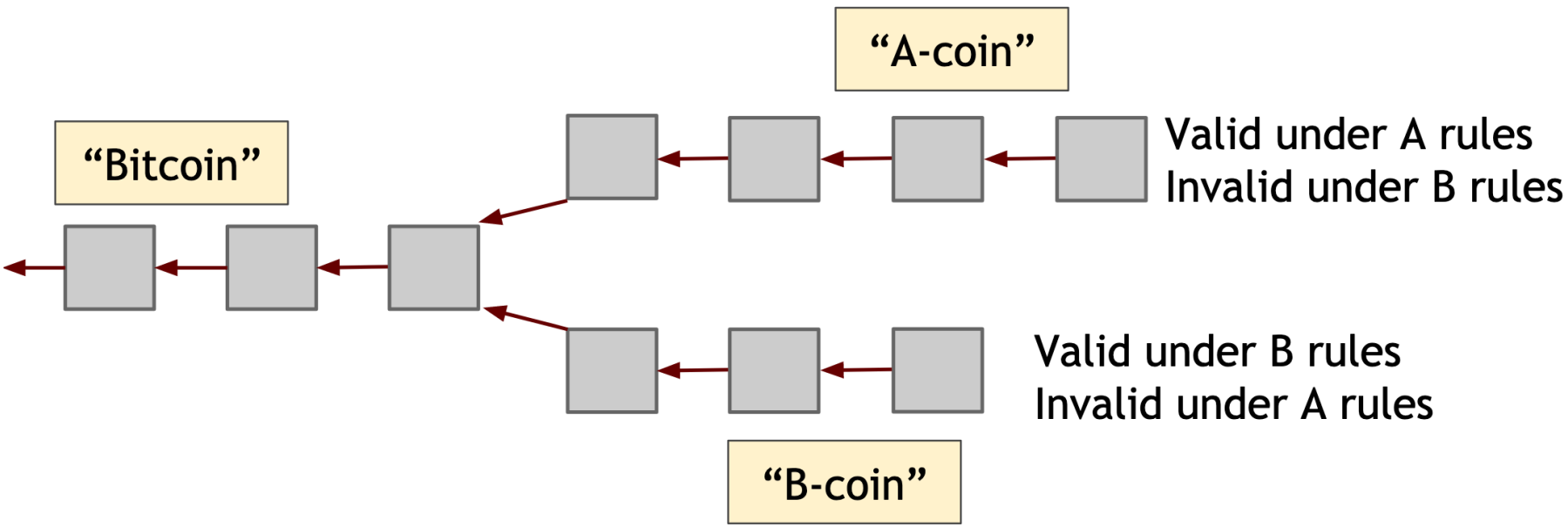

"the currency forked"

Who has power in Bitcoin ecosystem?

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- *Claim*: Payment services have the power.

Bitcoin Foundation

- Founded in 2012.
- Pays core developers.
- "voice of Bitcoin" to governments.

Governments and Bitcoin

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  - Hard to keep real and virtual separate.
  - Hard to stay anonymous for a long time.
  - Feds can "follow the money"
- https://www.loc.gov/law/help/cryptocurrency/world-survey.php

Should Cryptocurrency be regulated?

Simplified Debate!

- Arguments with examples.

Should Cryptocurrency be regulated?

Simplified Debate!

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  - Three arguments **for**.
  - Three arguments **against**.
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