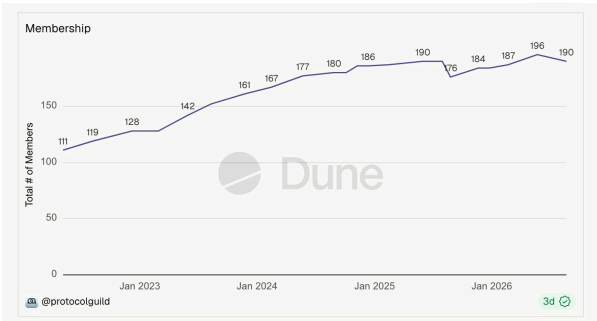
The Political Economy of Protocols

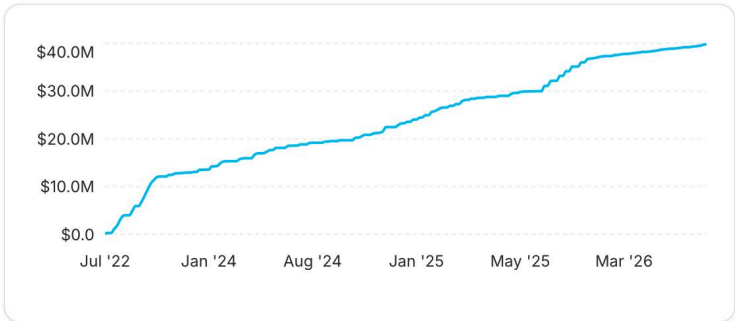


Trent Van Epps
Protocol Guild
prev. Ethereum Foundation

Sept 23 2026 @ Protocol Symposium

Protocol Guild - Impact





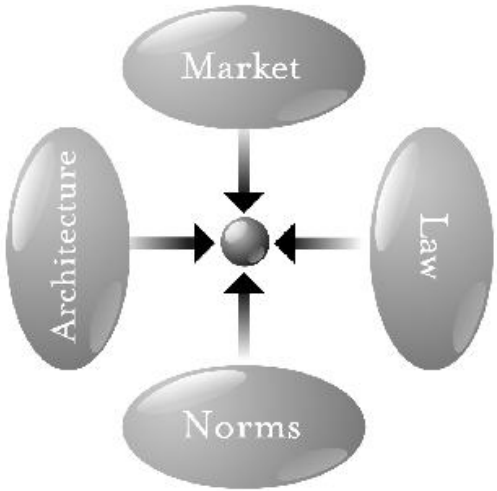


Initial Abstract

Protocols generate orders of magnitude more value than they capture.

⭐ OSS $4.15B --> $8.8T (2,000x)! *Hoffmann, Nagle, Zhou, 2024*

The protocol commons needs governance, labor, and funding to structure ongoing stewardship. Who governs these flows, and by extension, the shape of the protocol?



pathetic dot theory - Lawrence Lessig (1999)

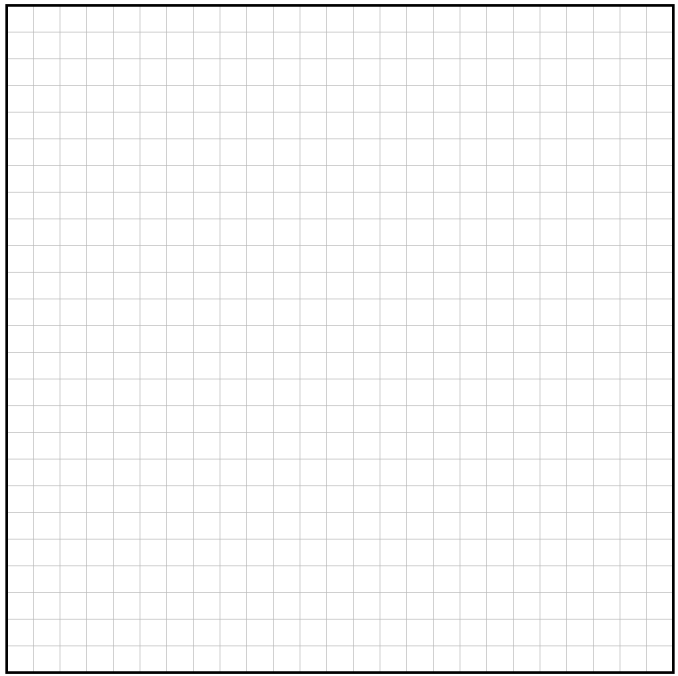


a four body problem

see also: Crypto's Three-Body Problem - Other Internet - Laura Lotti, Toby Shorin, Sam Hart (2024)

norms 🤝

new nature ⚛️



market 💰

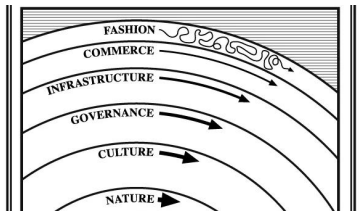
state 🏛️

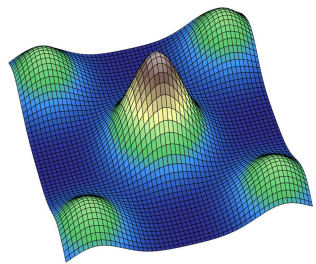
norms

new nature



Moogamhl (Four Face Mask)
Beau Dick (1993)





local and global maxima

market

state

norms 🤝

new nature

1. a protocol is not just the spec! it cannot be separated from the contestable institutions, labor, funding, and legitimacy which shape them

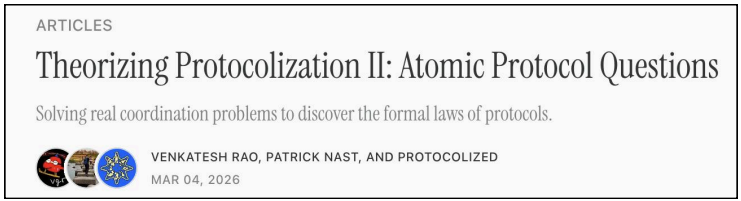
2. these dynamics can be plotted in an attractor political-economy field 💥

big claims

market 💰

state 🏛

Atomic-ish Protocol Questions



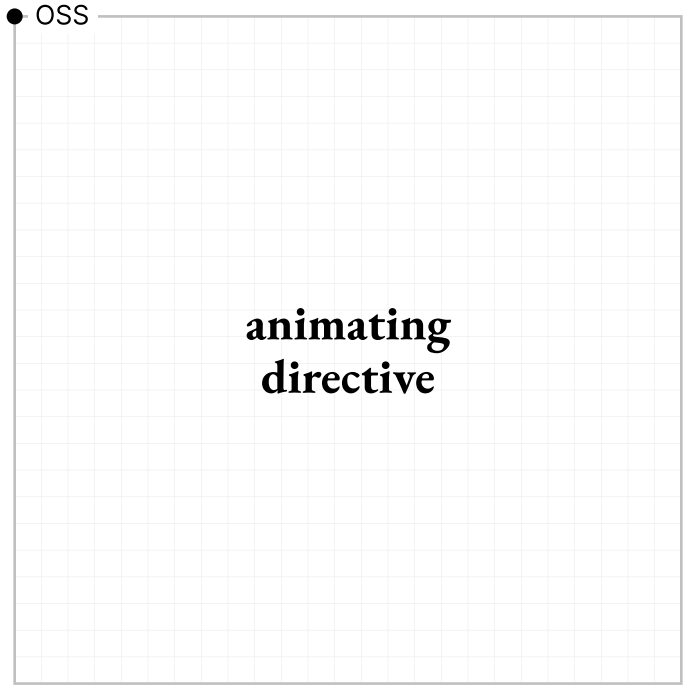
1. Can the relative influence of each attractor be quantified over time? ie. freedom/democracy indices
2. Is there a measurable relationship between the utility/invisibility of a protocol and the number of entities with a stake in its ongoing production?
3. When and how should positive externalities be internalized to provide sustainable flows back to shared processes?

norms

new nature

- Incorporating the Digital Commons: Corporate Involvement in Free and Open Source Software
- *Benjamin J. Birkinbine (2020)*

“avoid capture to maintain shared resources”



market

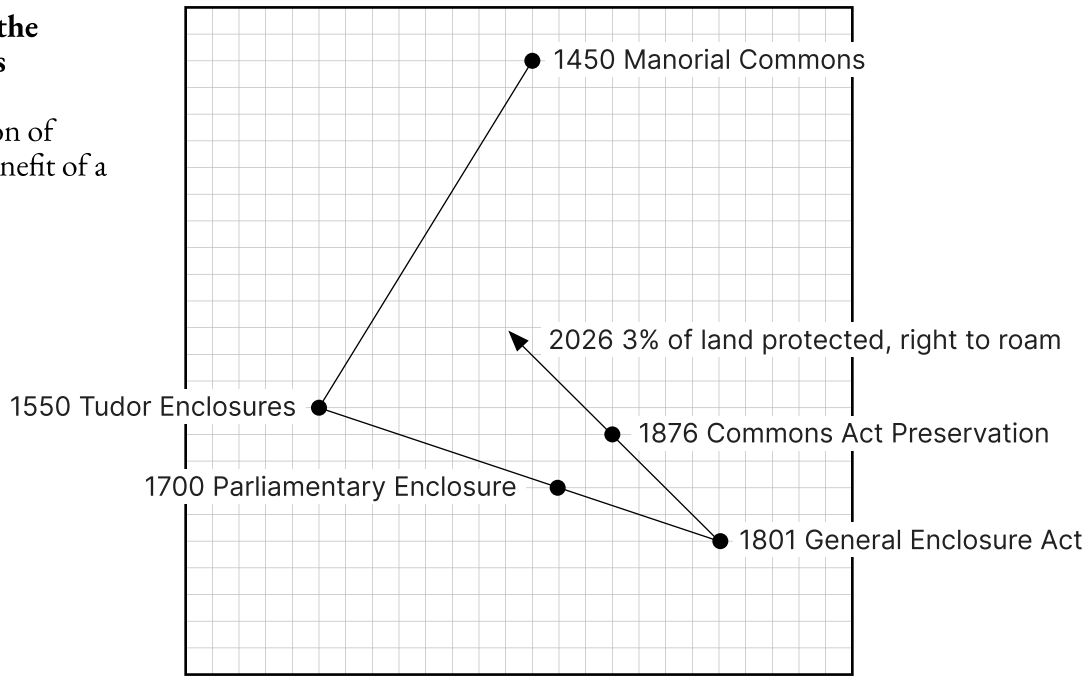
state

norms

nature

The Enclosure of the English Commons

capture: a corruption of authority for the benefit of a minority party



feudalism

state

norms

new nature

Public-key cryptography

- protocol: how control exists after decentralization
- *alexander r galloway (2004)*

"encode or cede control to maximize fitness"

animating directive

- The External Control of Organizations: A Resource Dependence Perspective
- *Jeffrey Pfeffer and Gerald R. Salancik (1978)*

"reduce uncertainty to increase profit"

- The Master Switch: The Rise and Fall of Information Empires
- *Tim Wu (2010)*

"prevent or permit monopolies to increase public welfare"

VISA

GPS

market

state

norms

- Open source/standards
- Unaffiliated contribution share
- Public deliberation rate
- Merit-based authority
- Fork legitimacy and frequency

new nature

- Discretion Reduction: Math, cryptography
- Change-rate (Ossification, breaking or otherwise)
- Replacement cost
- Formal Verification
- Self-amending

potentially measurable inputs

market

- Corporate-authored contribution share
- Funding concentration (HHI)
- Direct fee/revenue capture

state

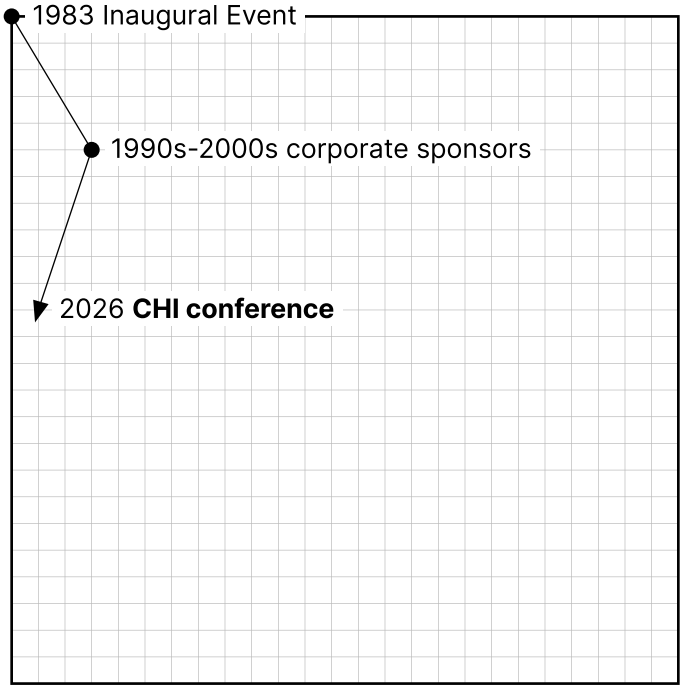
- Formal legal recognition
- Mandated technical compliance
- Enforcement action count

norms

new nature

Capital and CHI: Technological Capture and How It Structures CHI Research

Eric Gilbert - 2025

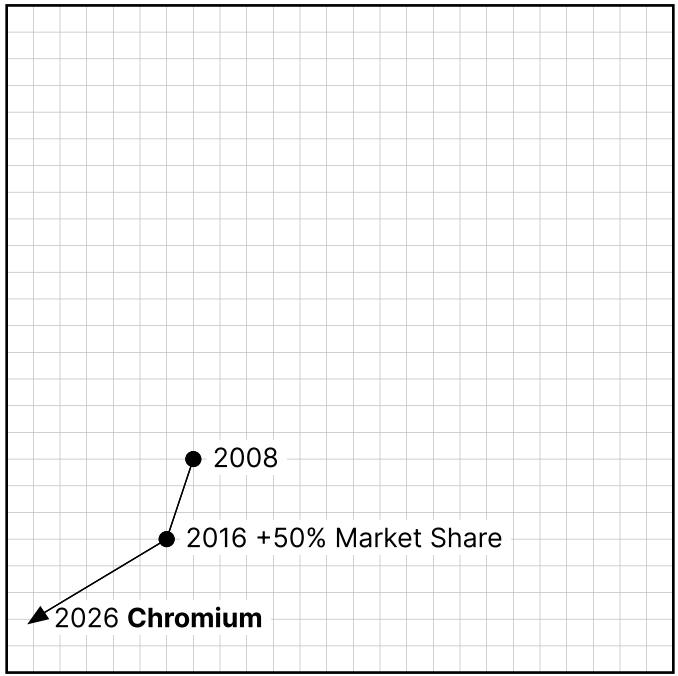


market

state

norms

new nature



Chromium as a Tool of Logistical Power: A Material Political Economy of Open-Source

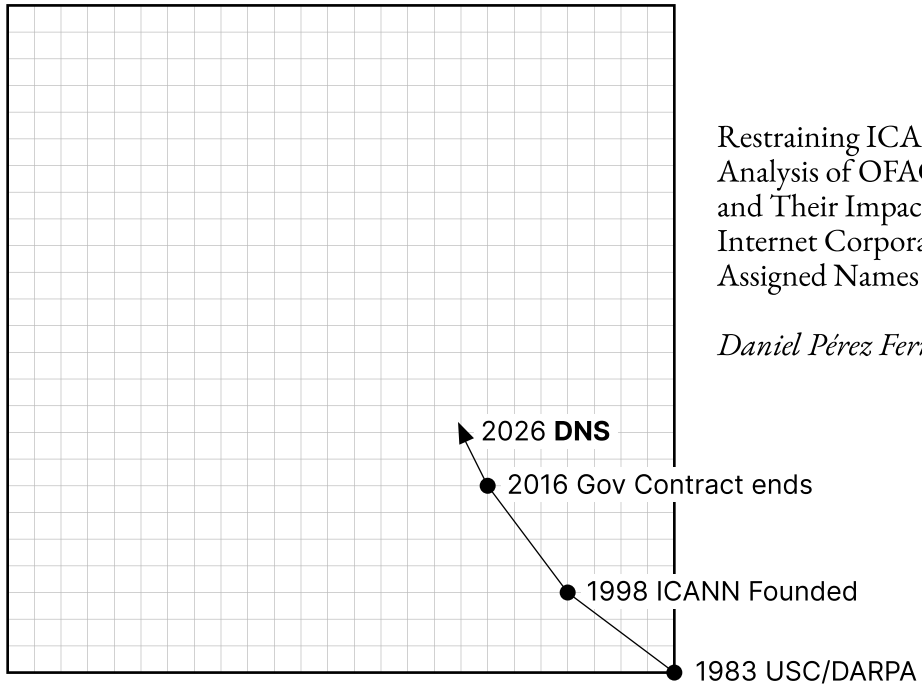
Bolun Zhang and Davide Carpano, UCSD (2023)

market

state

norms

new nature



Restraining ICANN: An Analysis of OFAC Sanctions and Their Impact on the Internet Corporation for Assigned Names and Numbers

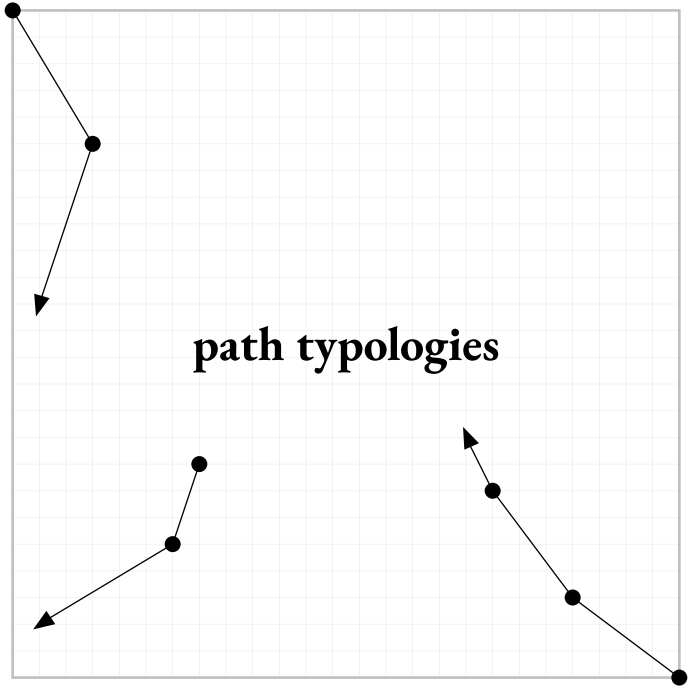
Daniel Pérez Fernández - 2023

market

state

norms

new nature

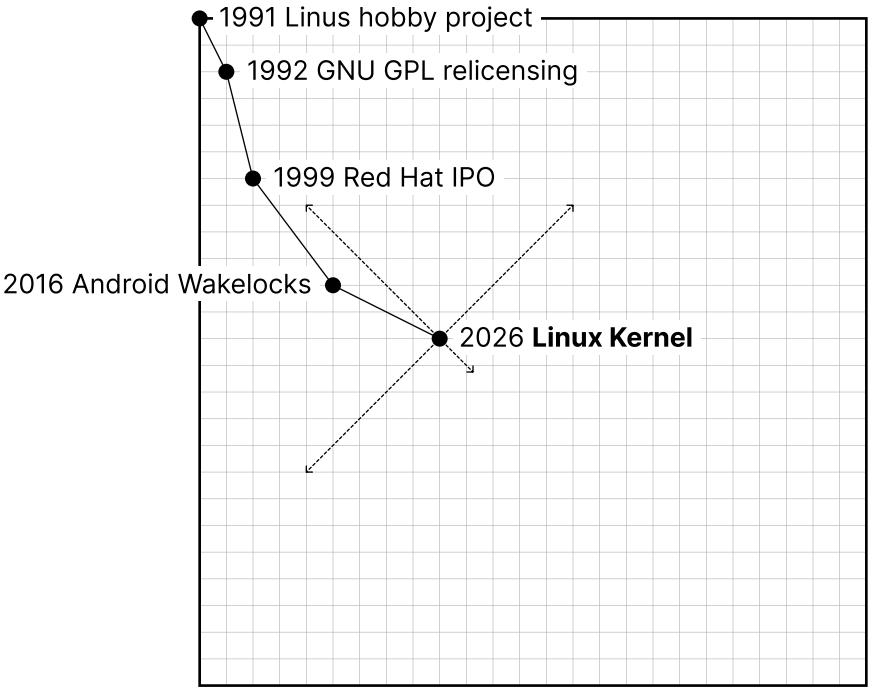


market

state

norms

new nature



market

state

contestability <> tensegrity 🤝



“tensional integrity” Kenneth Snelson - "Tree I"

Most active

By changesets		
(Unknown)	1666	11.7%
Intel	1540	10.8%
Google	1075	7.5%
AMD	943	6.6%
Red Hat	922	6.5%
Qualcomm	795	5.6%
(None)	598	4.2%
Meta	424	3.0%
SUSE	362	2.5%
Oracle	296	2.1%
Huawei Technologies	291	2.0%
(Consultant)	276	1.9%
NVIDIA	268	1.9%
Renesas Electronics	258	1.8%
IBM	256	1.8%

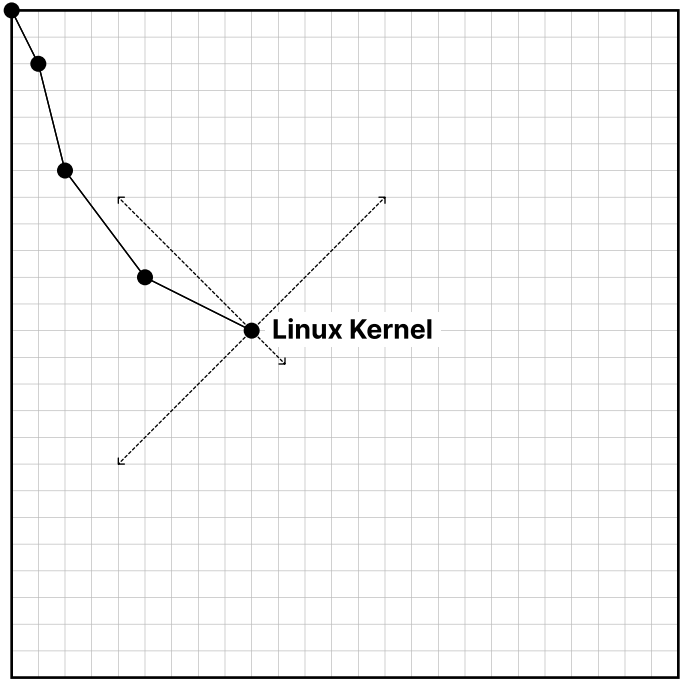
April 13, 2026 - lwn.net/Articles/1066723/

norms

- OSS as a rule
- Linus as “benevolent dictator for life” (BDFL)
- Kernel merge access is heavily reputation based

new nature

- +30 years of development
- decreasing rate of change



- Robust commercial services
- Linux Foundation is “pay-to-play” - board membership is based on donations, gives donors input on outflows
- Google has pushed features to benefit android

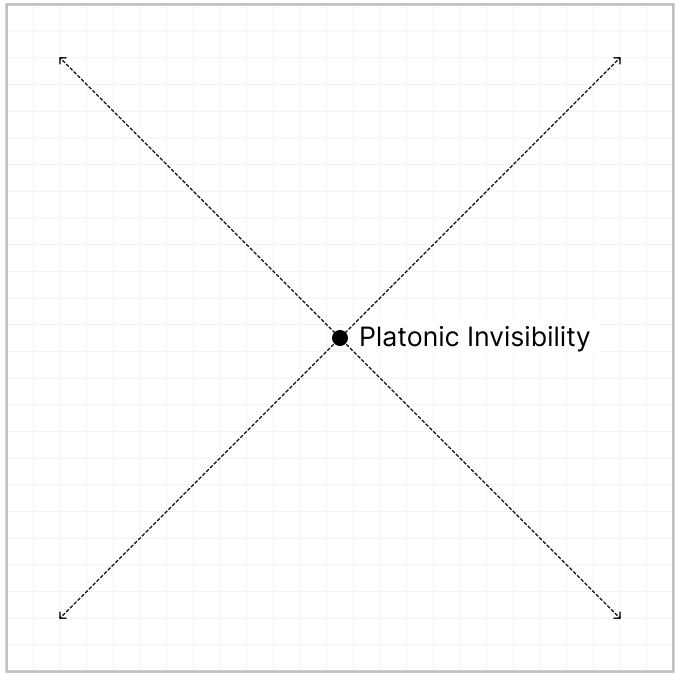
- NASA, DoD usage
- SELinux by NSA
- 2026 - California wanted to age-verify all operating systems, including Linux

market

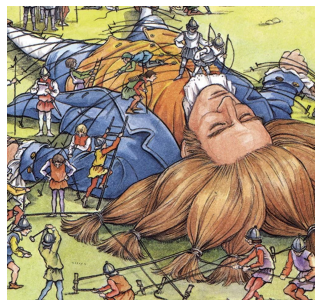
state

norms

new nature







Leviathan/Gulliver tied down

market

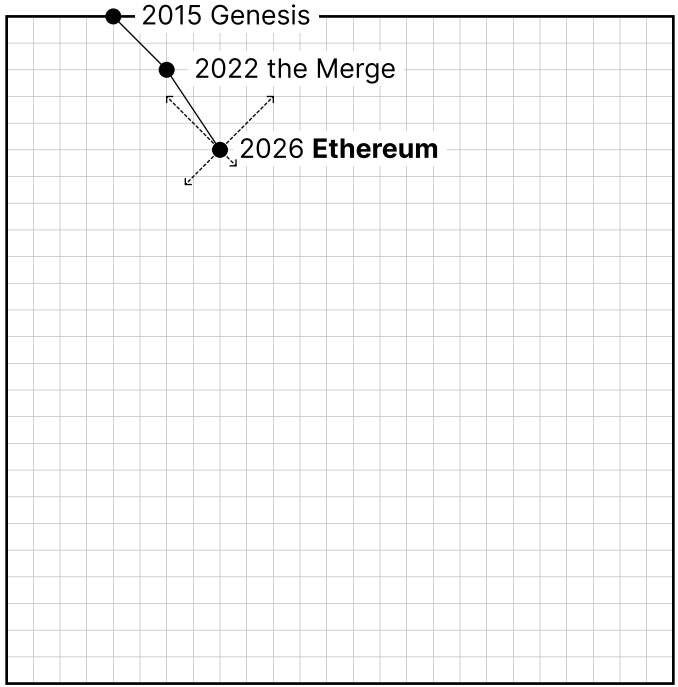
state

norms

- OSS as a rule
- All Core Devs, +15 orgs
- Open Spec, Client Diversity
- Historically a commons of developer peers

new nature

- permissionlessness
- censorship resistance
- public key cryptography
- discussion of ossification is a social norm

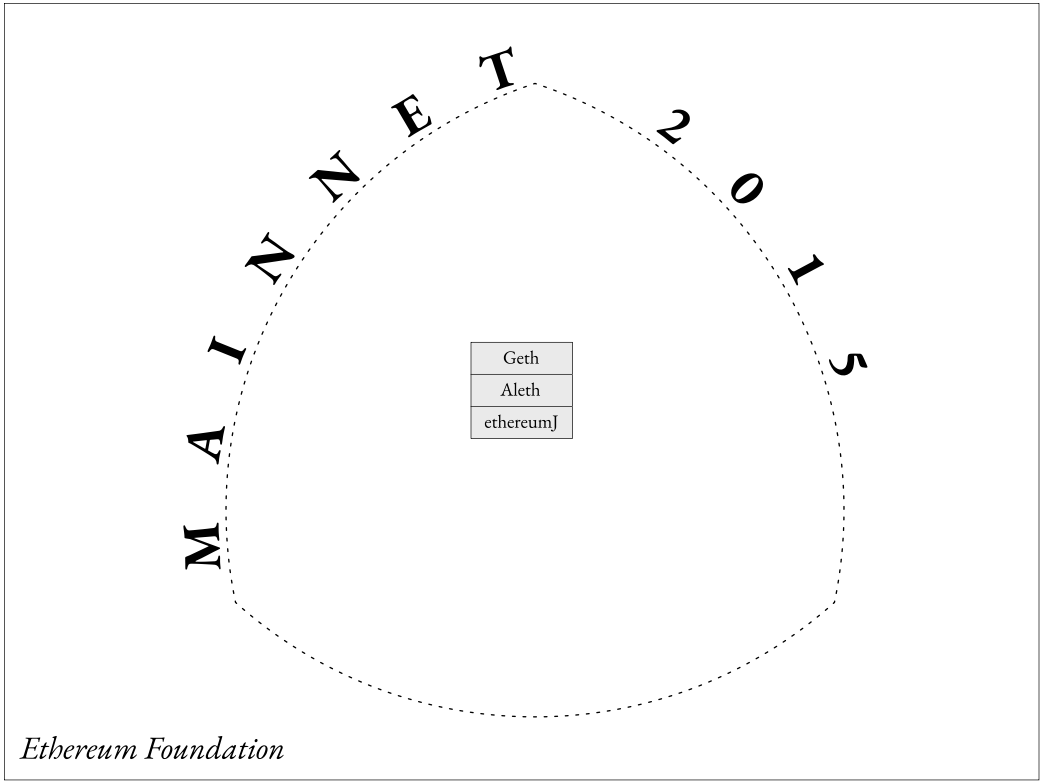


- 2016 - DAO hack
- 2017 - 2018 - Parity multisig incident + EIP 999
- 2018 - 2020 Progpow
- 2024 - 2026 Issuance Debate

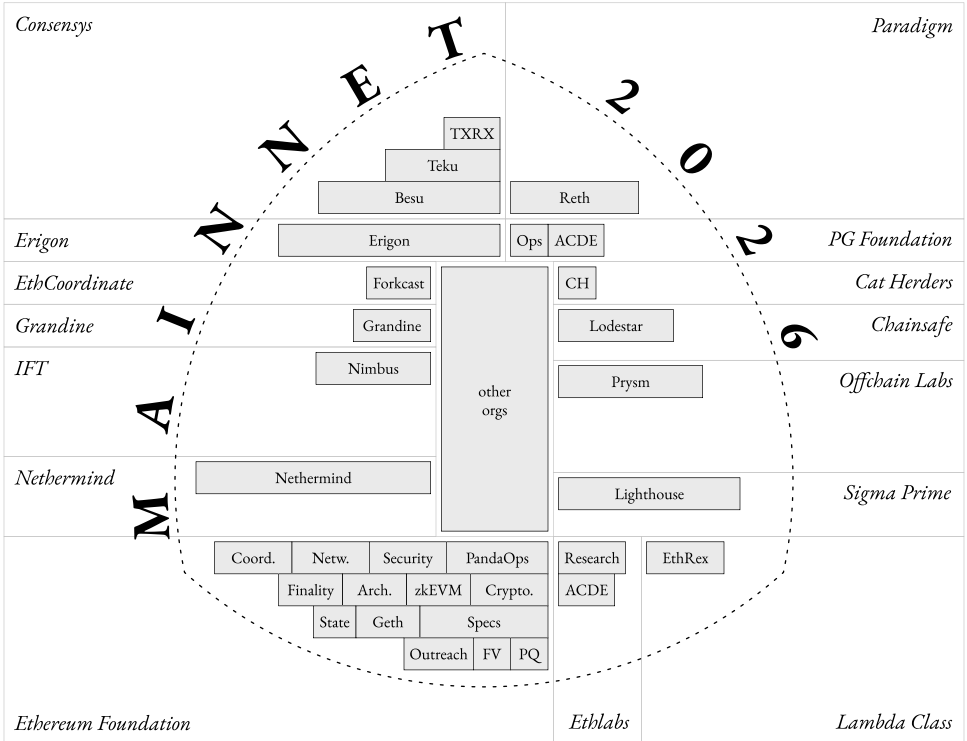
market

- Stablecoins extend US hegemony
- OFAC sanctioning of Tornado contracts
- FOCIL, privacy EIPs

state

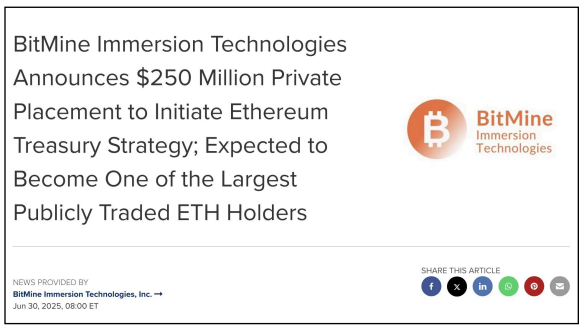


Ethereum Foundation


Consensys
Paradigm
MAINNET 2026
TXRX
Teku
Besu
Reth
Erigon
Erigon
Ops
ACDE
PG Foundation
EthCoordinate
Forkcast
CH
Cat Herders
Grandine
Grandine
Lodestar
Chainsafe
IFT
Nimbus
Prysm
Offchain Labs
other orgs
Nethermind
Nethermind
Lighthouse
Sigma Prime
Coord.
Netw.
Security
PandaOps
Research
EthRex
Finality
Arch.
zkEVM
Crypto.
ACDE
State
Geth
Specs
Outreach
FV
PQ
Ethereum Foundation
Ethlabs
Lambda Class

Bitmine + Resource Dependence Theory

June 30 2025 - BitMine DAT Launch


BitMine Immersion Technologies Announces $250 Million Private Placement to Initiate Ethereum Treasury Strategy; Expected to Become One of the Largest Publicly Traded ETH Holders

BitMine Immersion Technologies

NEWS PROVIDED BY
BitMine Immersion Technologies, Inc. →
Jun 30, 2025, 08:00 ET

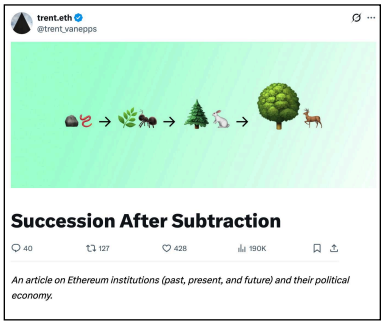
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"The Alchemy of 5%" - as of Sept 21: 4.9% is $16B



Ethereum Institutional Succession

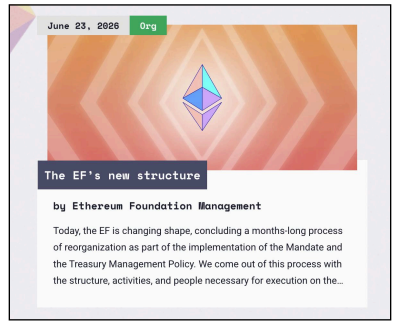
June 18 - Succession After Subtraction



June 19 - Bitmine CEO “Funding Secured”



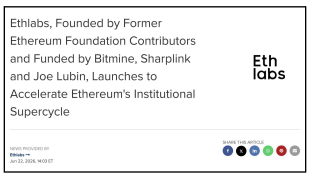
June 23 - EF reorg, personnel and budget cuts



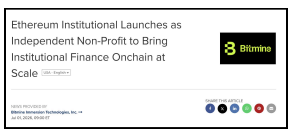
norms

new nature

June 22 - Ethlabs

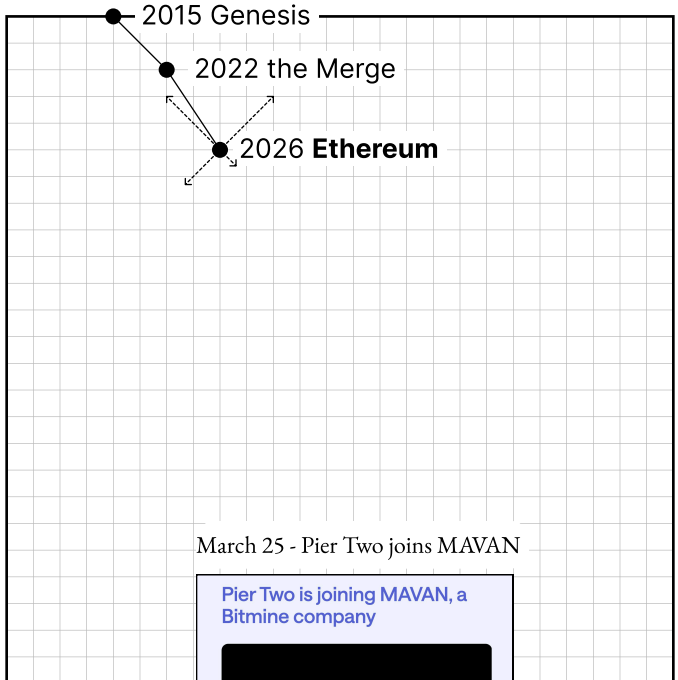


July 1 - Ethereum Institutional



July 14 - EthSystems





March 25 - Pier Two joins MAVAN

market

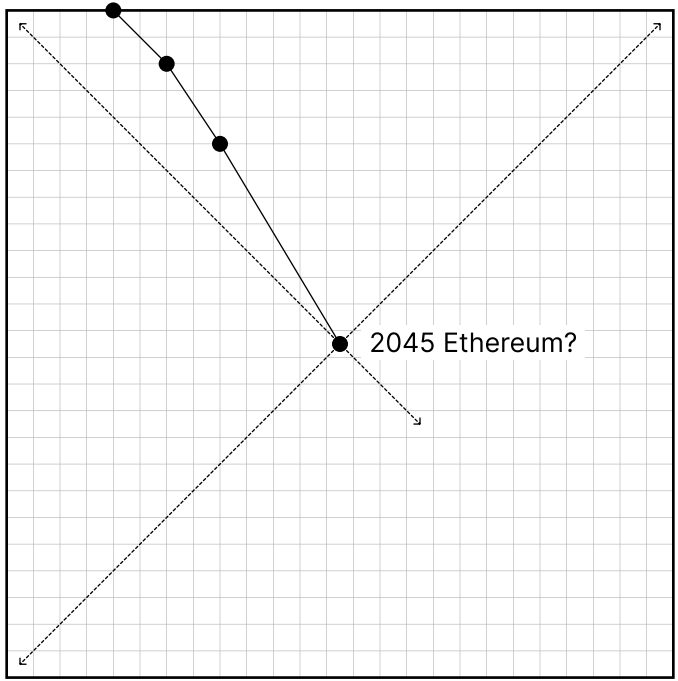
state

norms

new nature

Ethereum towards New Nature

1. Do our embedded capital circuits (PoS, ETH, DeFi) amplify or inoculate against capture by market?



2. What can be done to derisk worst-case tensegrities?

- Ossification: “just one more 5 year sprint”
- post-quantum cryptographic transitions
- AI Unlocks
  - Formal verification via autoresearch
  - potentially reduce the dependence on wealthy patrons
  - also lowers the bar for building client / voice in governance

market

state

Ethereum towards New Nature

It may help to keep a pair of pictures in mind. One is the familiar image of the African savannah, with its tableau of charismatic megafauna. The other is the near-pitch darkness of the mesopelagic zone of the oceans, beyond the reach and attention of both fishing fleets and the cameras of shark documentaries. This zone is densely populated by a family of bioluminescent fish that you may have never heard of or seen pictures of – Bristlemouths (Gonostomatidae) – which number in the *trillions* to *quadrillions*, constituting nearly 90% of fish biomass on the planet by some estimates. These fish anchor not just oceanic ecologies, but the entire *planetary* ecology.

