COLONY

BudgetBox

Twenty two slides of applied epistemology

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COLONY

Decentralized Capital Allocation via Budgeting Boxes

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Abstract

Colony's developer incentive mechanism will support development of applications on top of the Colony Network, thereby expanding the scope of the network's utility and adoption, and therefore value. We present a structured curation mechanism for efficiently, reliably, and decentrally allocating newly minted CLNY across an unbounded set of applications, proportional to their utility to the Colony Network.

The mechanism is similar in intent to Proof of Work: the more hashing power you have, the greater your share of block rewards, hence the incentive

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I. Information Theory

The Data Processing Inequality

$$A \rightarrow B \rightarrow C$$

$$I(A;B) \geq I(A;C)$$

Measurement and Processing

$$world \rightarrow data \rightarrow analysis$$

measurement
(basic science)

challenges:
representation,
noise

processing
(statistics, ML)

challenges:
expressiveness,
complexity

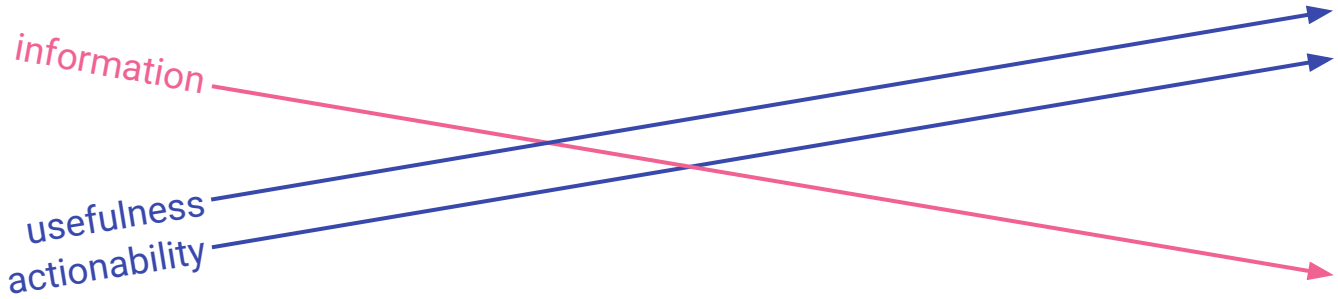
A Meaningful Example

$$\Omega \rightarrow [x_1, x_2, x_3, x_4] \rightarrow \bar{x}$$

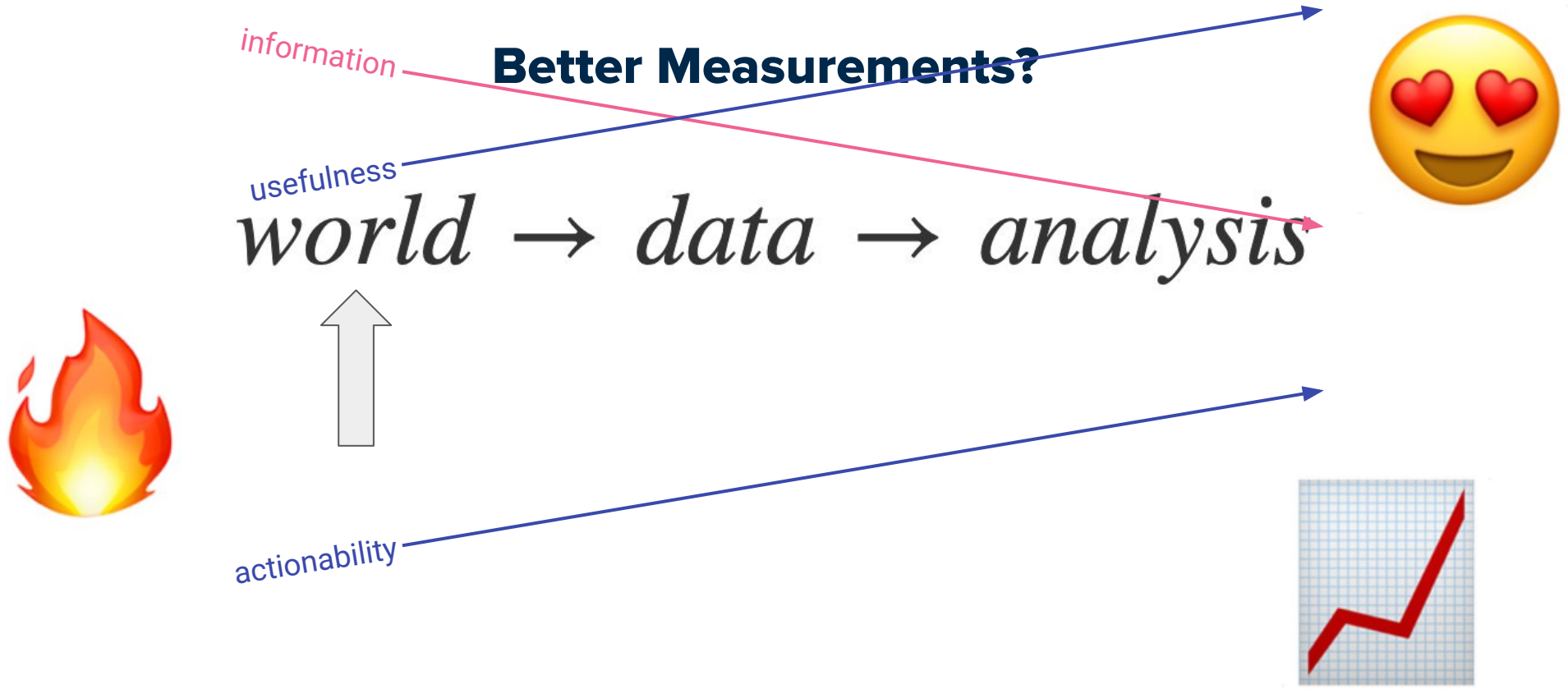
Processing does not **increase** information.
It makes existing information more **useful**.

Better Measurements?

$$world \rightarrow data \rightarrow analysis$$



Better Measurements?



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Change the **measurement**,
change the **world**.

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II. Information Practice

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The Minimum Viable Measurement

$$A \quad >/< \quad B$$

$$(0/1)$$

Simple!

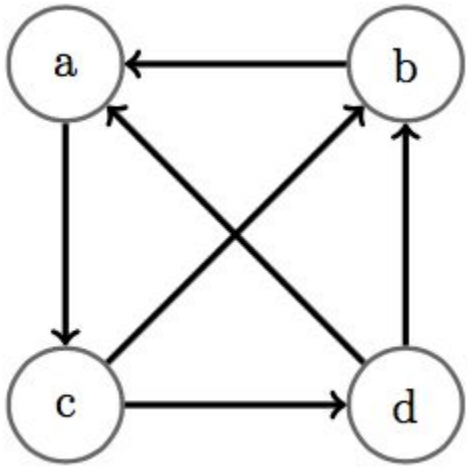
Semigroups

$$x, y \in S$$

$$x \cdot y \to z \in S$$

Flexible!

Markov Matrices, Spectral Rankings



$$\mathbf{M} = \begin{bmatrix} .66 & .33 & 0 & .33 \\ 0 & .66 & .33 & .33 \\ .33 & 0 & .33 & 0 \\ 0 & 0 & .33 & .33 \end{bmatrix} \qquad \mathbf{v} = [.4, .3, .2, .1]$$

Powerful!

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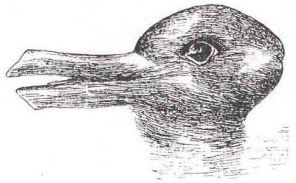
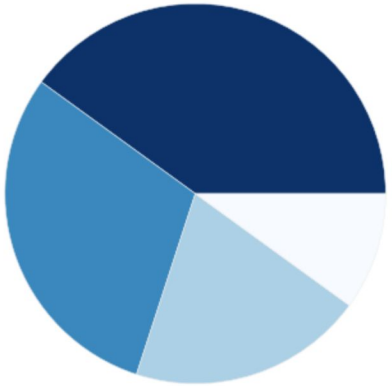
Distribution as Budget



$$\mathbf{v} = [.4, .3, .2, .1]$$



Boom.

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BUDGETBOX

A simple, flexible, and powerful mechanism for **measuring** and **processing** financial priorities.

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III. In Conclusion

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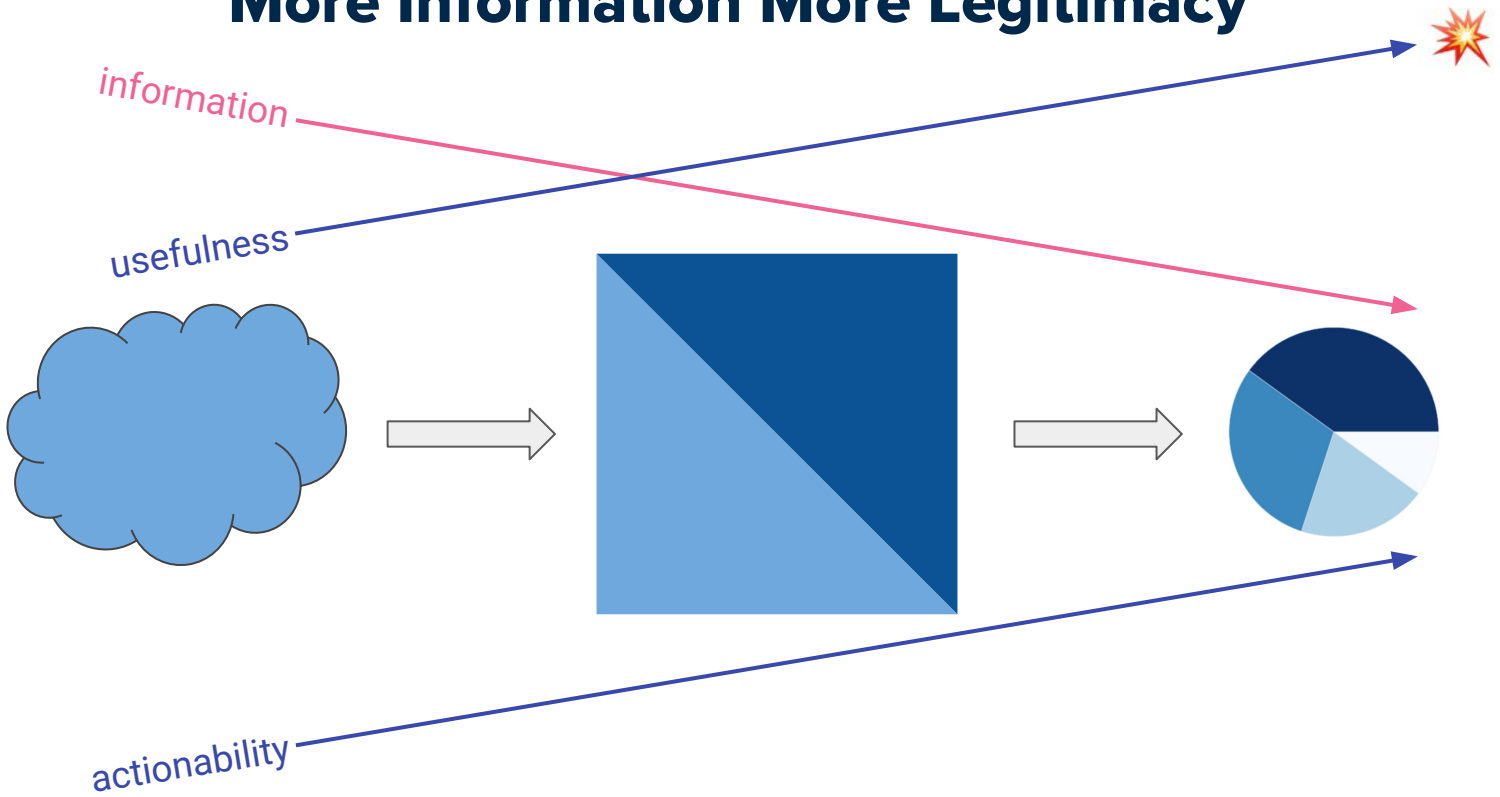
Right representation.

Right measurement.

Right processing.

More Information More Legitimacy



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Applications Everywhere

Open Source

Municipalities

Organizations

Matchmaking

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Bullet points.

- Simple measurements
  - ➔ more information
  - ➔ analysis more closely reflects world
  - ➔ analysis more **legitimate**.
- Ease of aggregation and analysis
  - ➔ possible to update in real-time
  - ➔ can quickly **incorporate new information**.
- Budgeting goes from being cognitively demanding
  - ➔ to being cognitively simple
  - ➔ tool for **direct public participation and oversight**.
- Mechanism can be extended in many interesting ways. #QV

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Thanks Detroit ✨

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