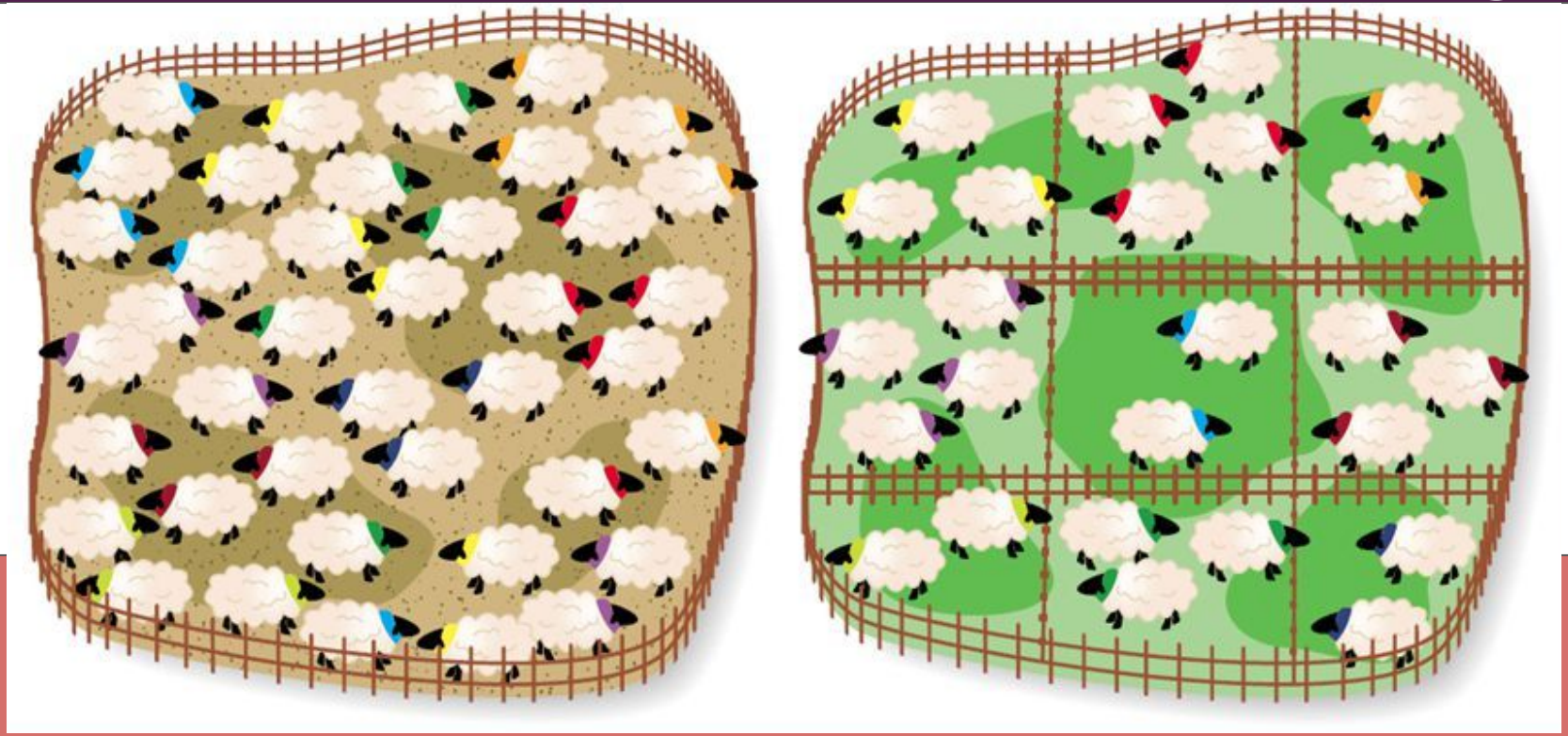
Ostrom's Institutional Analysis



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Towards a (Fractal?) Reporting Structure For DAOs

TS Unconference
Nov 30, 2022
@banal_na_graial

What follows is the culmination of my own personal, non-peer reviewed research to date and is pure conjecture

I'm not a lawyer or broker and have no formal accounting training or certification

Primary Source:
Ostrom, 2005 - Understanding Institutional Diversity

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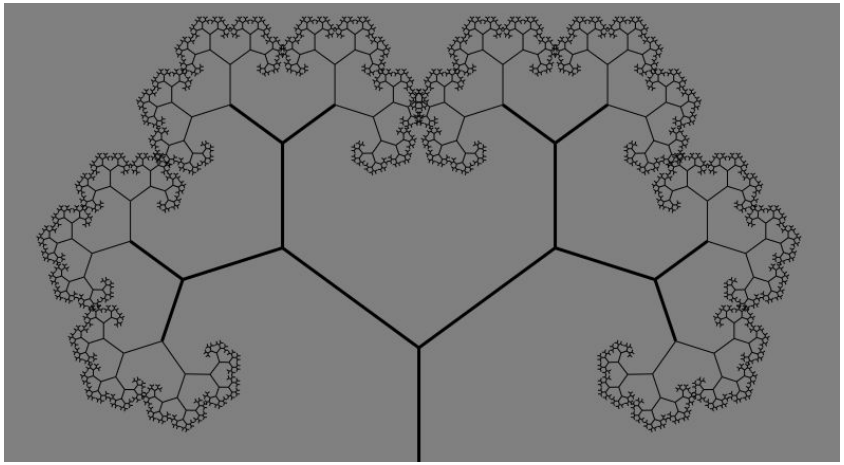
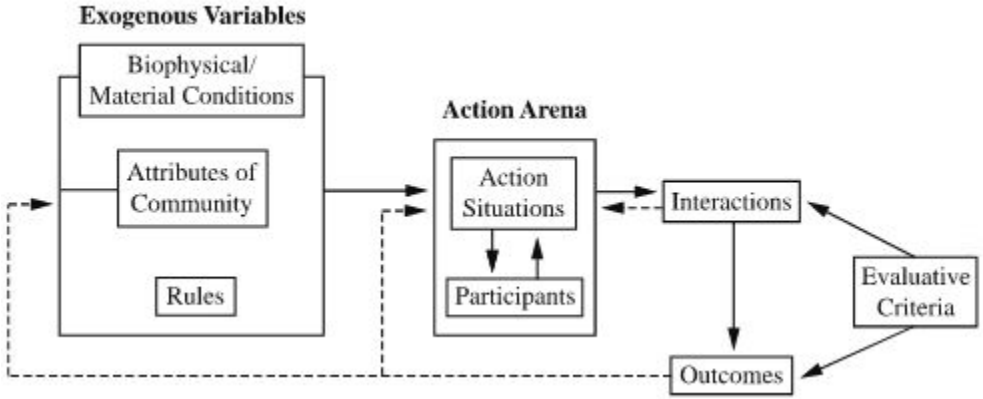
Could Ostrom's Institutional Analysis pave the way for the next Oracle of Omaha?

Outline

- Institutional Analysis & Design - the Snatch Game
- History of *"Security Analysis"* - the 1929 crash, Great Depression and founding of SEC
- The Oracle of Omaha, & insurance as a pooled resource
- How IAD may guide us in framing the DAO-version of a "Security"
- Institutional Analysis as a basis for reporting for Trusted Seed
  - Mini case-studies
  - My past attempt at Community Analysis

Institutional Analysis & Design





	Subtractability of use		
		Low	*High*
Difficulty of excluding potential beneficiaries	*Low*	Toll goods	Private goods
	High	Public goods	Common-pool resources

Public Transport vs 'Free' Public Transport

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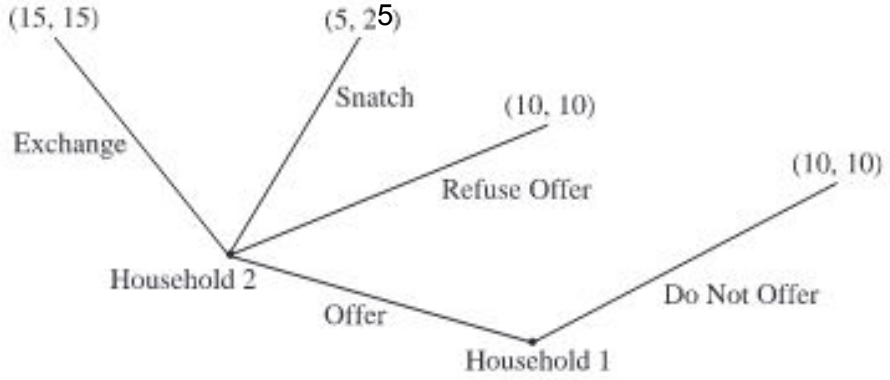
The Snatch Game




- **One-shot, sequential social dilemma**
- Meals composed with chicken & potatoes are more flavorful & healthier the meals composed of only chicken or potatoes
- Each household valued their own commodity as one.
- Exchanging 1 unit of their own production for 1 unit of another household's commodity doubles the value of both
- **Ex** **House 1** **House 2**
  5 chicken ⇔ 5 Sacks of potatoes = 20 units



- House 1 can:
  - Offer (0 to max)
- If House 2 gets an offer, then it has three choices.
  - REFUSE no change
  - AGREE 2x on amount exchange
  - SNATCH House1 loses offered amount, House2 gets 2x

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Snatch Game - Live

Set-up

- All participants split into 5 Houses
- Each team gets a private chat channel
- Each team starts with 10 units

Starting

House 1	10
House 2	10
House 3	10
House 4	10
House 5	10

Round 1

Actor		Reactor	
House 2	6	House 4	6
House 3	-2	House 1	6
House 4	-2	House 3	6
House 5	6	House 2	6
House 1	4	House 5	4

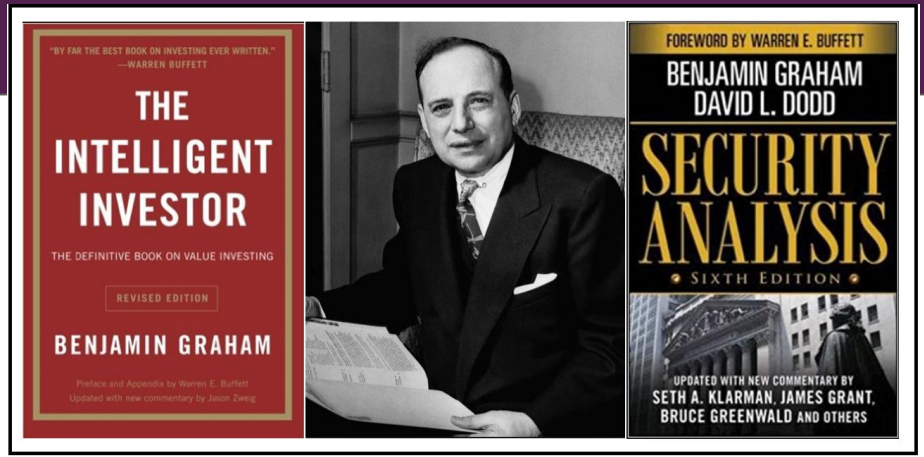
Gameplay

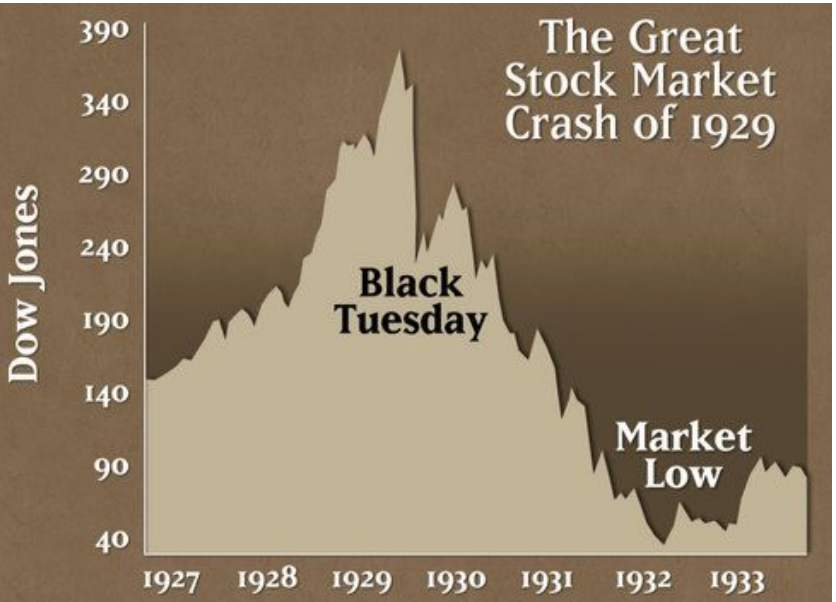
- 5 rounds split throughout the presentation
- 5 bouts per round
- Each House plays twice per round
  - Once as actor
  - Once as counter-actor
- Each House is encouraged to select their representative via their private chat
- Table talk allowed

House 1	20
House 2	22
House 3	14
House 4	14
House 5	20

Security Analysis

- Graham's book *Security Analysis* was written from experiences of
  - The unregulated securities market of the 20s
  - *Security Analysis*, drafted during the Great Depression
- Security Analysis was published the same year that SEC was





Brief Timeline of the Oracle of Omaha

- Approached GEICO in 1951 (age 21) because Graham was a board member
- Began working Graham-Newman in 1954
- Began buying Berkshire Hathaway in 1962
- Insurance is resource pooling, (club goods)

BERKSHIRE HATHAWAY INC.

“The basic ideas of investing are to look at stocks as business, use the market's fluctuations to your advantage, and seek a *margin of safety*.”

“That's what Ben Graham taught us. A hundred years from now they will still be the cornerstones of investing.”

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Snatch Game - Round 2

State & Environment

Operational

Collective Choice

Constitutional

Metaconstitititional

Round 2

Actor		Reactor	
House 2	6	House 1	6
House 3	12	House 2	12
House 5	-3	House 3	9
House 1	6	House 4	6
House 4	10	House 5	10

House 1	32
House 2	40
House 3	35
House 4	30
House 5	27

What are DAOs aspiring towards?

my own observations

a. Self-organization without an explicitly profit-oriented mission (ie not a Corporation)

b. Raising funds
   i. Selling digital collectibles (such as NFTs)
   ii. Selling governance (ie voting tokens)
   iii. Avoid reporting (esp smaller projects)

c. Some form of sustainability
   i. Employment income
   ii. Sell services

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Where is Security Law at today?

- In July 2022, the SEC outlined the attributes of 15 tokens that allow them to fall within existing Securities Laws. I had direct experience with Rally so I only highlight them:
  - **Purported Voting Power** over the structure of the busines
  - Operating **multiple projects** within the ecosystem
  - Community treasury **fundraising event**
  - A "**Common Enterprise**" (ie funds allocated to devs)
  - Specifics allocations to "**Team & Seed**"
  - **Expectation of Profit** to Investors/Buyers due to the efforts of others
  - Promoting its **management team** & emphasizing its importance

Where is Institutional Analysis at today?

- Mostly in Academic Studies
- How can IA provide a framework for understanding the DAO-version of a “Security”?
  - Ostrom’s Institutional Analysis recognizes the autonomy of the ‘holon’.
    - Fractal
    - Capable of participation in multiple polycentric governance systems
    - Action Arena outcomes are the focus of analysis

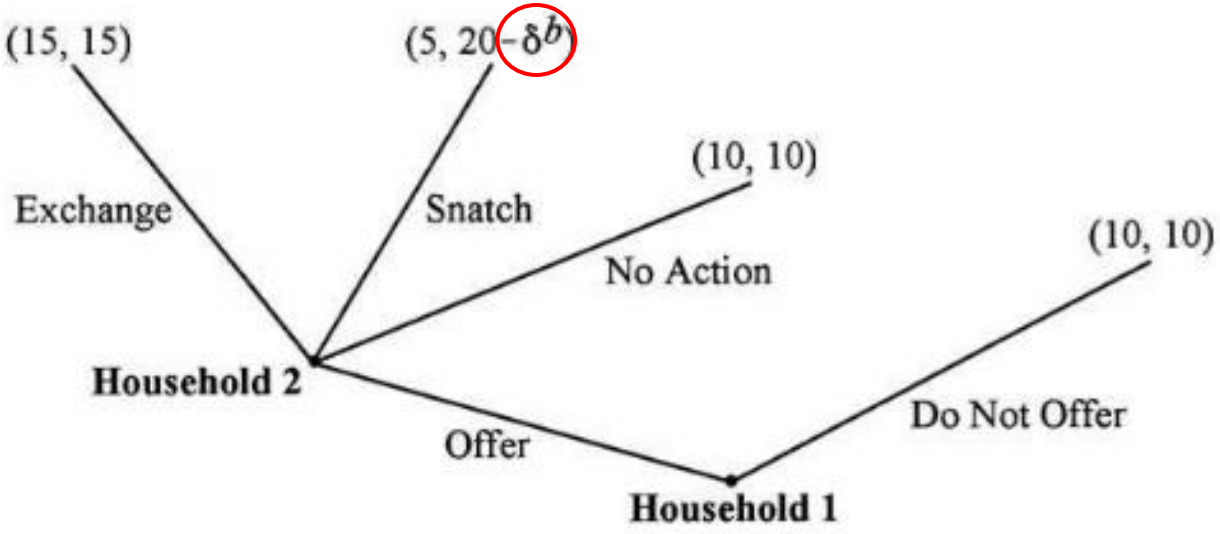
Fractal maths & game-theory, had not yet been discovered during Benjamin Graham’s time

Snatch Game - Round 3

Round 3

Actor		Reactor	
House 1	10	House 2	10
House 3	10	House 5	10
House 4	20	House 1	20
House 2	40	House 3	40
House 5	30	House 4	30

Adding Norms/Reputation



Winner!!

House 1	62
House 2	90
House 3	85
House 4	80
House 5	67

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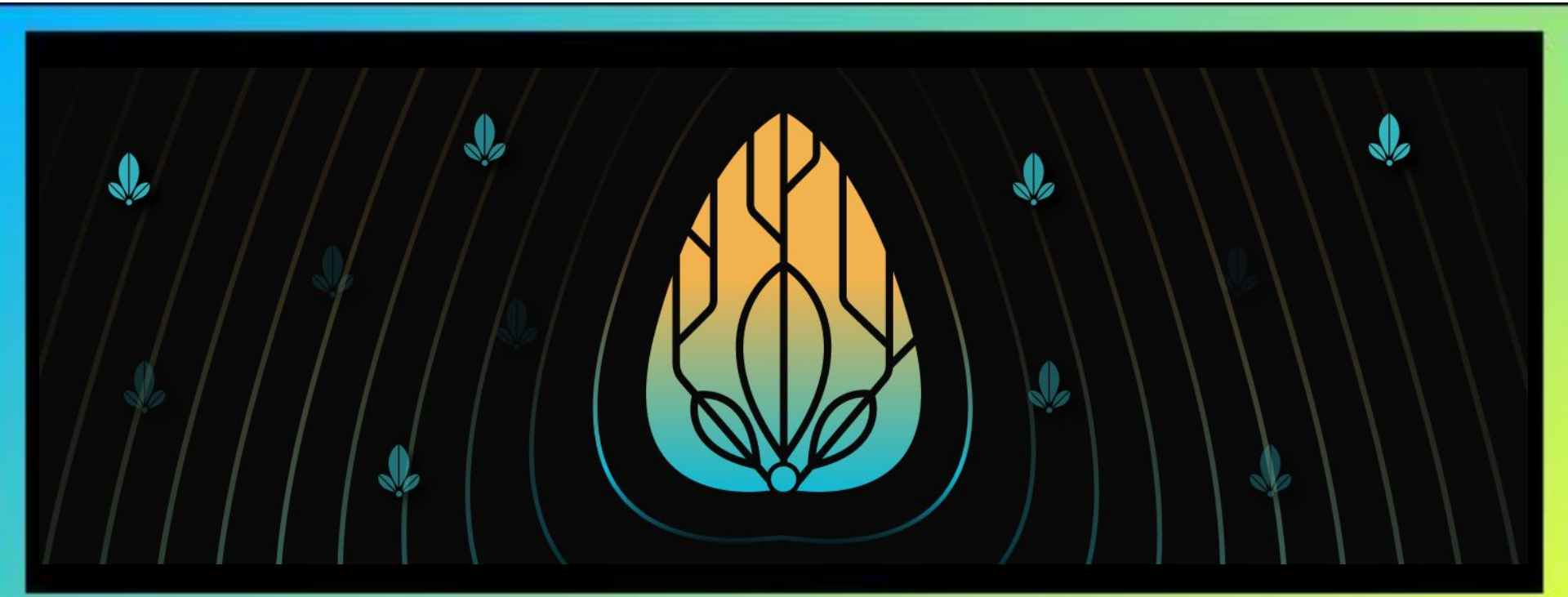
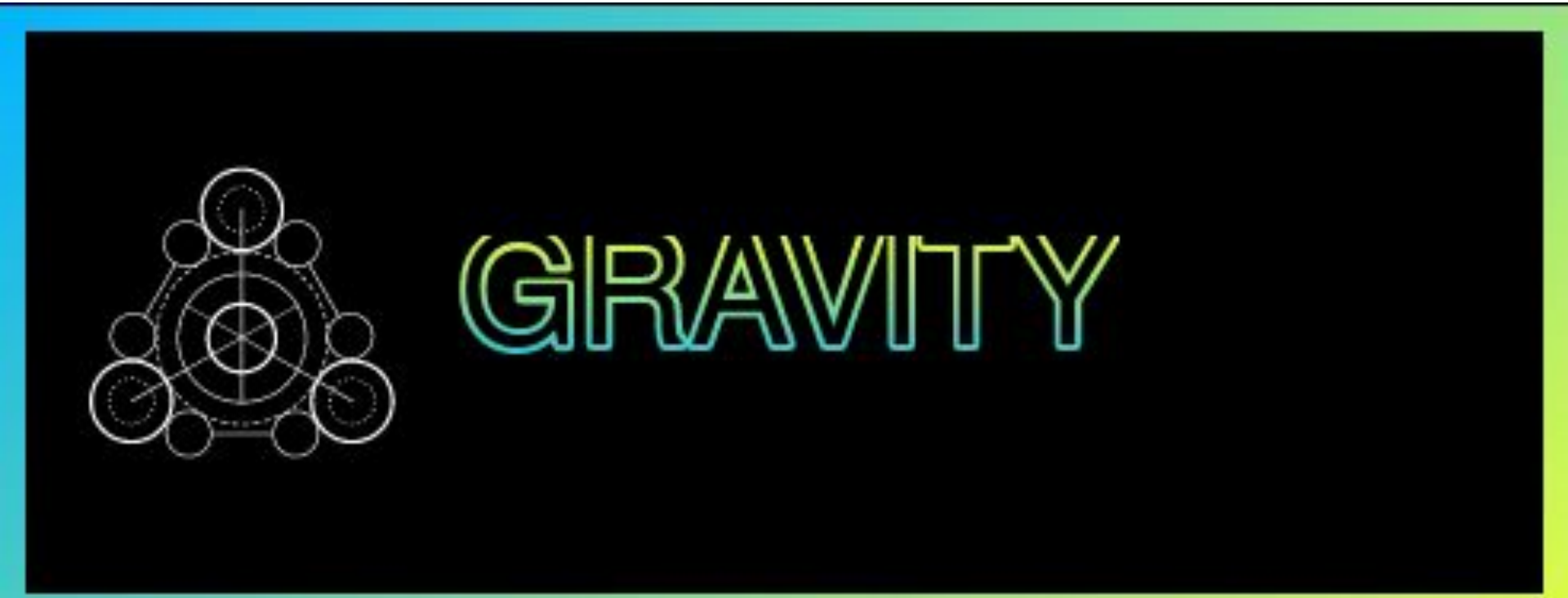
Guest Presentation



Guest Presentation



Guest Presentation

Grassroots Economics

Snatch Game - Round 4

ADICO Syntax

The general syntax of this grammar includes five components:

[ATTRIBUTE], [DEONTIC], [AIM], [CONDITIONS], [OR ELSE]

- **ATTRIBUTE -** is a holder for any value of a participant-level variable that distinguishes to whom the institutional statement applies. Examples include
  - Personal demographics (age, gender, experience)
  - a specific position, such as employee or chairperson.
- **DEONTIC -** the three modal verbs **"may"** *(permitted)*, **"must"** *(obliged)*, and **"must not"** *(forbidden)*
- **I AIM -** describes particular actions or outcomes in the action situation to which the deontic is assigned. may include a formula or a description of the process for an action
- **C CONDITIONS -** is a holder for those variables that define when and where an action or outcome is permitted, obligatory, or forbidden.
- **O OR ELSE -** is a holder for the institutionally assigned consequence for not following a rule

Round 4

Actor	Reactor
House 2	House 5
House 3	House 4
House 4	House 2
House 1	House 3
House 5	House 1

House 1	10
House 2	10
House 3	10
House 4	10
House 5	10

The Snatch Game Summarized

- Characterizes situations where the actors involved do not share norms or rules. "state of nature."
  - IF both households value only the goods they finally receive.
  - AND if Household 2 has the physical capability of snatching the goods once they were brought out in this "lawless" situation
- The predicted equilibrium of this game is an inefficient outcome—no exchange.
- Social dilemmas are ubiquitous in economic, political, and social life whenever the private returns to each participant are greater than their share of a joint return no matter what other participants do.
- **Ostrom laid the groundwork for developing rules and norms to overcome these dilemmas.**

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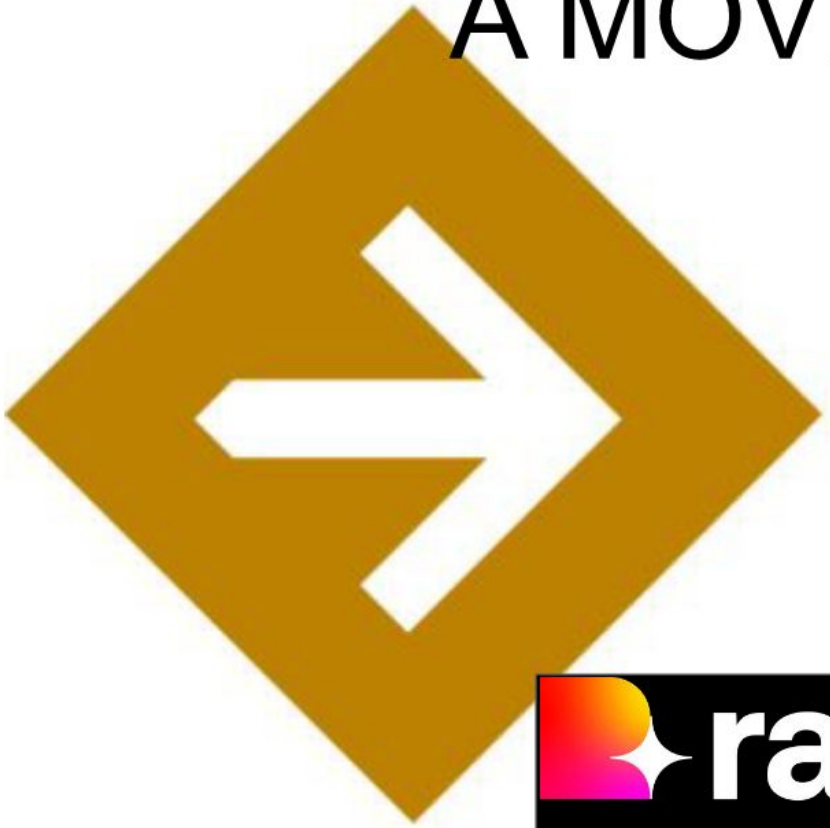
Some Community Analysis & Action Arena

A MOVE coin moment



Talking fundamentals on Rally Creator/Community coins

rally

@banal_na_graial

May 5, 2022

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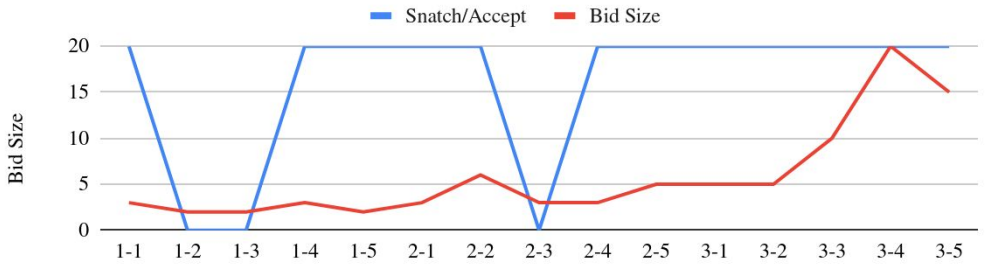
Snatch Game - Final Round

Post-game Summary



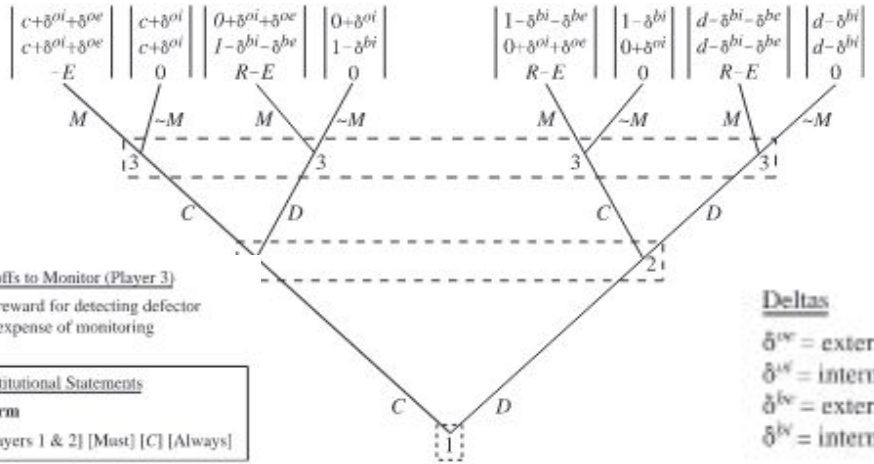
- In Round 3, Snatching stopped and bids rapidly increased.
- What would have happened if we'd played the 5th round as planned?

Round 5

Actor	Reactor
House 3	House 4
House 1	House 2
House 2	House 5
House 5	House 1
House 4	House 3

NOT PLAYED IN LIVESTREAM

House 1	10
House 2	10
House 3	10
House 4	10
House 5	10



Payoffs to Monitor (Player 3)

R = reward for detecting defector

E = expense of monitoring

Institutional Statements

Norm

[Players 1 & 2] [Must] [C] [Always]

Types of players

$+\delta^{oe}$ large	zealot
$\Delta = 0$	selfish rational individual
$+\delta^{oi}$ and/or $-\delta^{bi}$ large	everyday Kantian
$+\delta^{o}$ large when number of cooperators low	elite participationists
$+\delta^{o}$ large when number of cooperators high	mass participationists
Δ larger when number of cooperators > threshold	people motivated by fairness

LOL see final slide :)

Deltas

δ^{oe} = external changes in payoffs from obeying prescription

δ^{oi} = internal changes in payoffs from obeying prescription

δ^{be} = external changes in payoffs from breaking prescription

δ^{bi} = internal changes in payoffs from breaking prescription

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Next Steps (using TS as an Example)

my personal suggestions

- Check out the ***gnucash.org*** user manual to learn double-entry!
- Identifying if/where Polycentricity is present within Trusted Seed and Ecosystem
- Make the TS goals a public document with regular, predictable review, revision and confirmation by vote
- Provision resources to report against those goals
- Where goals are Fractal &/or Polycentric, use Action Arenas as the basis of reporting

The Zealot ($+\delta^{OE}$) with Chicken and Potatoes