

Ostrom's Institutional Analysis



TS Unconference
Nov 30, 2022
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Towards a (Fractal?) Reporting Structure For DAOs

**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



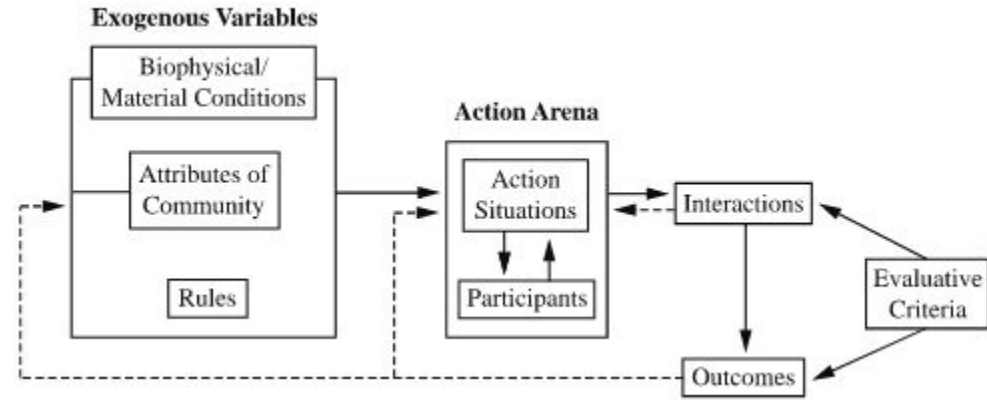
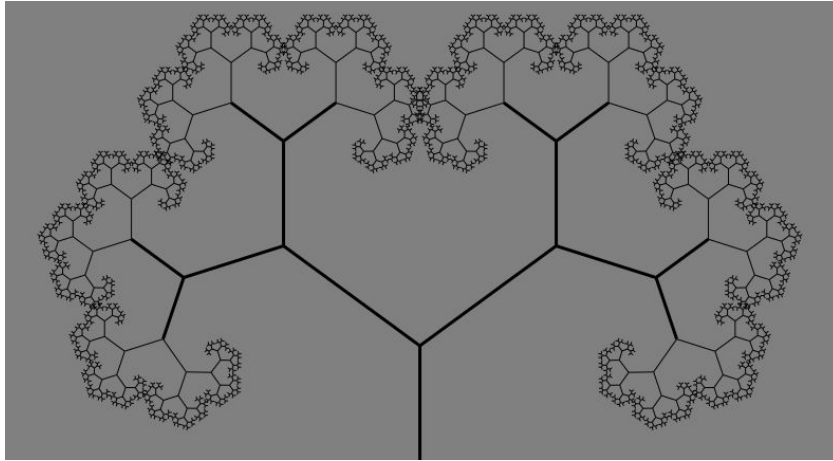
Could Ostrom's Institutional Analysis pave the way for the next Oracle of Omaha?

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



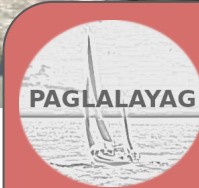
Institutional Analysis & Design



Difficulty of excluding potential beneficiaries	Subtractability of use		
		<i>Low</i>	<i>High</i>
	<i>Low</i>	Toll goods	Private goods
	<i>High</i>	Public goods	Common-pool resources

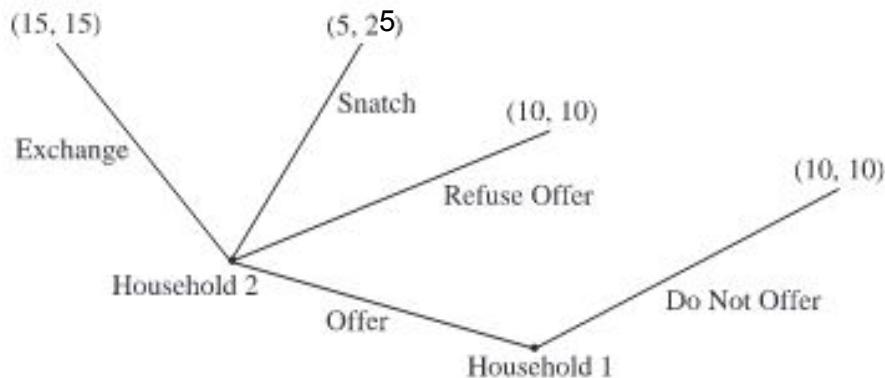


Public Transport vs 'Free' Public Transport



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 \Leftrightarrow 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



Snatch Game - Live

Setup

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

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

Round 1

Starting

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

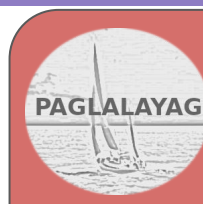
Actor

House 2
House 3
House 4
House 5
House 1

Reactor

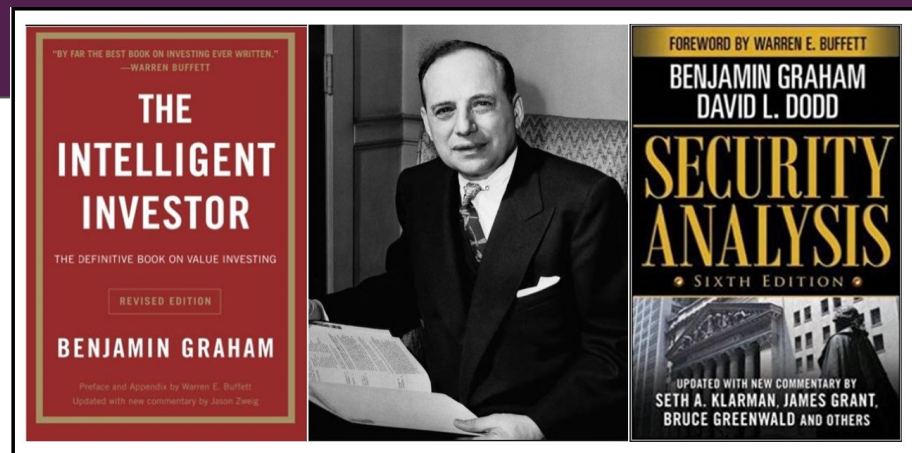
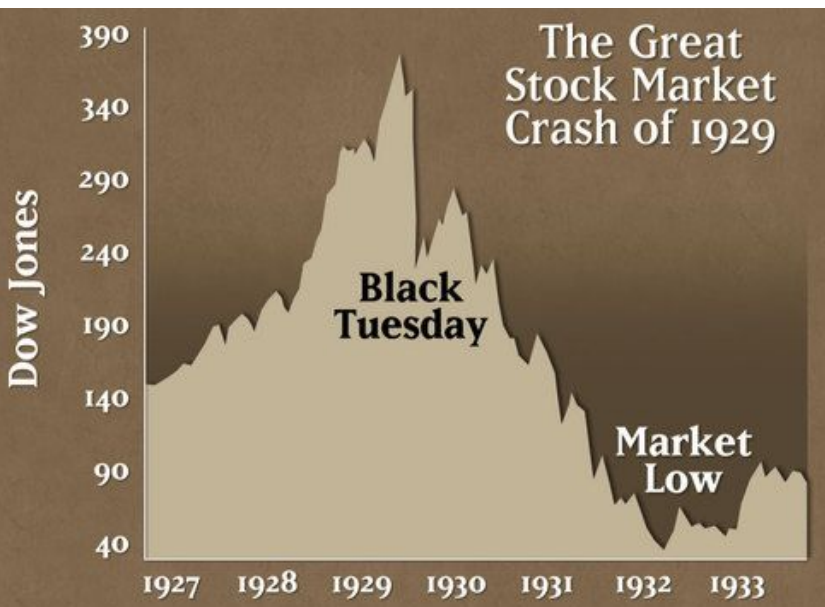
6	House 4	6
-2	House 1	6
-2	House 3	6
6	House 2	6
4	House 5	4

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)



“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.”

BERKSHIRE
HATHAWAY INC.



Snatch Game - Round 2

State & Environment

Operational

Collective Choice

Constitutional

Metaconstitutional

Round 2

Actor

House 2

House 3

House 5

House 1

House 4

Reactor

6 House 1 6

12 House 2 12

-3 House 3 9

6 House 4 6

10 House 5 10

House 1 32

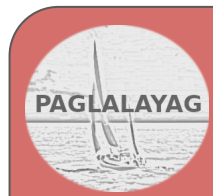
House 2 40

House 3 35

House 4 30

House 5 27

PAGLALAYAG



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

道



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 business
 - 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?

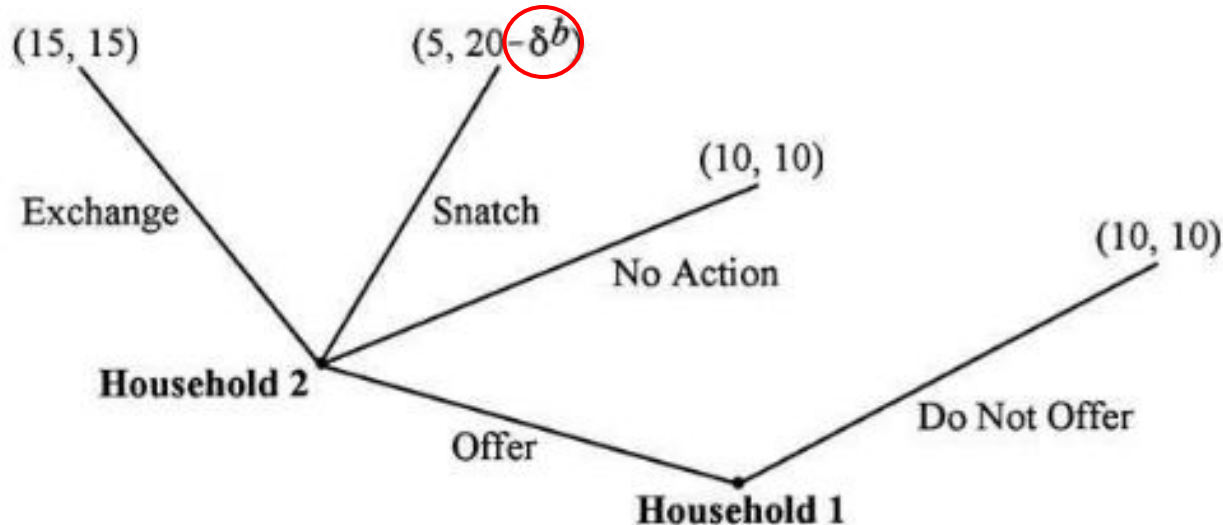
- Mostly in Academic Studies
- How can IA provide a framework for understanding the DAO-version of a “Security”?
 - Ostrom’s Institutional Analysis recognizes the autonomy of the ‘holon’.
 - Fractal
 - Capable of participation in multiple polycentric governance systems
 - Action Arena outcomes are the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

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



Snatch Game - Round 3

Adding Norms/Reputation



Round 3

Actor

House 1

House 3

House 4

House 2

House 5

Reactor

10 House 2 10

10 House 5 10

20 House 1 20

40 House 3 40

30 House 4 30

Winner!!

House 1 62

House 2 90

House 3 85

House 4 80

House 5 67



Guest Presentation



Guest Presentation



GRAVITY

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*)
- **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

House 2

House 3

House 4

House 1

House 5

Reactor

House 5

House 4

House 2

House 3

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.**



Some Community Analysis & Action Arena

A MOVE coin moment

Talking fundamentals on
Rally Creator/Community
coins

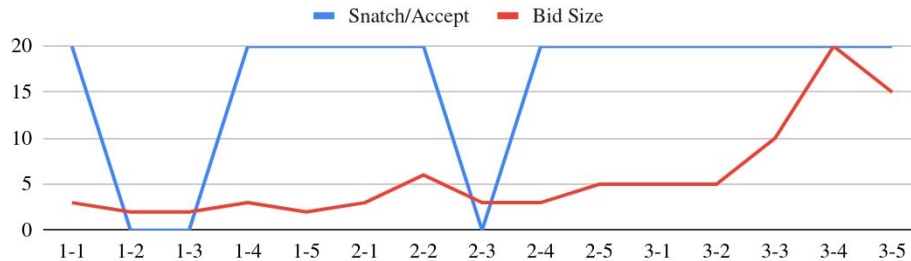


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May 5, 2022



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

House 3

House 1

House 2

House 5

House 4

Reactor

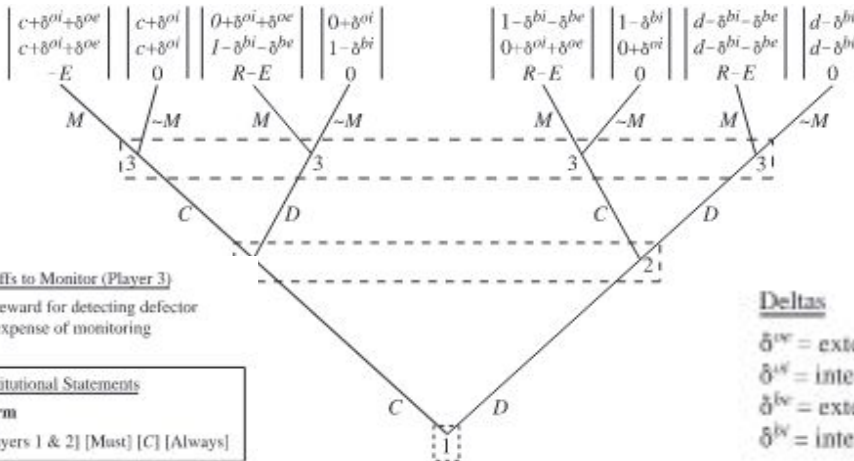
House 4

House 2

House 5

House 1

House 3



Types of players

- $+\delta^{oe}$ large
- $\Delta = 0$
- $+\delta^{oi}$ and/or $-\delta^{bi}$ large
- $+\delta^o$ large when number of cooperators low
- $+\delta^o$ large when number of cooperators high
- Δ larger when number of cooperators > threshold

LOL see final slide :)

- zealot
- selfish rational individual
- everyday Kantian
- elite participationists
- mass participationists
- people motivated by fairness

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

House 1 10

House 2 10

House 3 10

House 4 10

House 5 10



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 (+ δ^{OE}) with Chicken and Potatoes



OBEY ALL THE NORMS!!!