



# The Return of Cybernetics

The Computer in a World of Change

Daniel Kronovet, Research Engineer

[@kronosapiens](#) | [@joincolony](#)

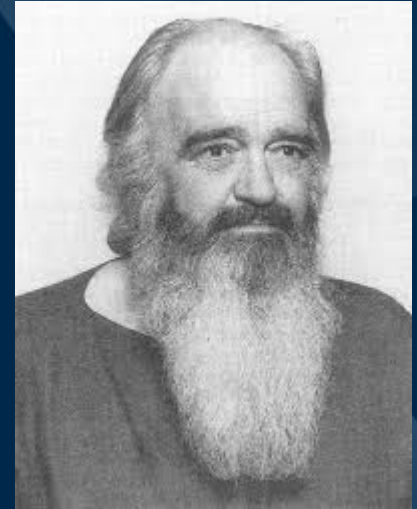


# **I. Cybernetics**

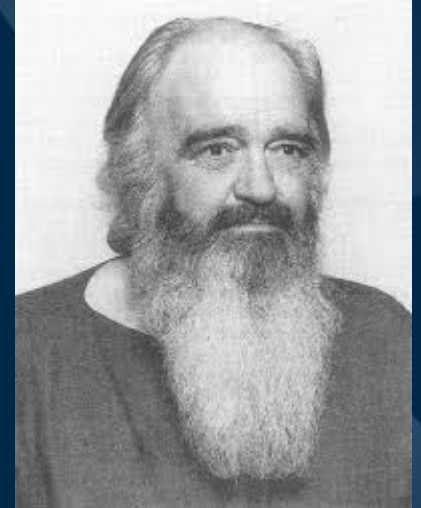
## Stafford Beer 🍺

*“...ordinary folk are led to think that the computer is an expensive and dangerous failure, a threat to their freedom and their individuality, whereas **it is really their only hope.**”*

-- Stafford Beer, “Designing Freedom” (1974)



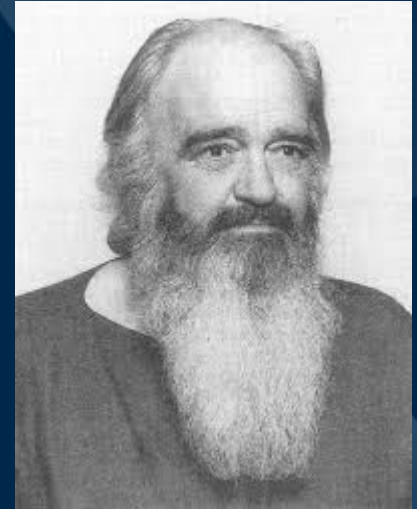
## Project Cybersyn (Chile, 1971-1973)





## Designing Freedom

*“At any rate, these are concepts of system we are handling now—that much is clear; and it is also clear that it is not very clever to attenuate variety by **freezing the continuous variables into arbitrary time epochs (such as periods, quarters, years, and five-year plans) when the essence of the business is the way it continuously generates its output through time.** We need to observe continuous time trends, that is to say: rates of change, gradients, step functions, and so on. **All that is necessary because we, as government, have to look to the interactions of dynamic systems.** The models we have were constructed primarily to inform shareholders as to the proper custody of their money. No wonder the models don’t map onto each other.”*

-- Stafford Beer, “Designing Freedom” (1974)



## TL;DR

- The world is **dynamic**, not static. Model change.
- Computers can be **active** agents in shaping decisions.
- The 70's were fun!  



## **II. Colony**

# Topics

1. **Work** 
2. **Reputation** 
3. **Budgeting** 
4. **Disputes** 



# Work

- Things need to get done -- the **outputs** of the organization.
- Humans need to do them -- the **inputs** of the organization.
- Scoping of work (usually) done by (other) humans.
- Evaluation of work done by **either** humans or machines.
- Can be **generalized** beyond existing notions of “work”.

# Reputation

- Driven by **peer-review** of work done, hence **legitimate**.
- **Ownership** is continuously **redistributed**, no one “in charge”.
- Yet, some can have **more reputation** than others.
- Reputation drives **influence** and **upside** (aligns incentives).
- Decays over time for **everyone** (even elites).

# Budgeting

- Resources are **continuously allocated** by reputation holders.
- Leverages knowledge at the **periphery**.
- Allows for distribution of **autonomy** among participants.
- Models organization as a **dynamic system**.

# Disputes

- To propose a change, must put up a stake -- **skin in the game.**
- If no one objects, change passes -- **no unnecessary voting.**
- If someone objects (also puts up a stake) , **a vote is held.**
- If the vote is close, **both sides get their stake** -- a useful vote.
- If the vote is a landslide, **loser loses their stake** -- waste of time.
- Our slogan is “**permissionless by default**”.

## Colony as Cybernetic System

- Human inputs, but **the computer drives the process.**
- **Reputation** gained and lost continuously over time.
- **Resources** continuously moving between domains.
- **Disputes** can correct for errors, with good incentives.
- Result is a continuous **output of value.**

# Applications to Gaming

- Guild Management
  - Reputation to determine **guild leadership**
  - Fairly distribute the **rewards of raids**
  - “Programs” functionality to **facilitate onboarding**
  - Let members “**borrow**” **NFTs** based on reputation
  - **In-game duels** to decide dispute outcomes\*
- UGC Creator Teams
  - Support team **self-management**
  - Let teams decide what content to **prioritize & fund**

*\*Literally my favorite use-case*



**Thanks, BGA ✨**

Daniel Kronovet, Research Engineer

[@kronosapiens](#) | [@joincolony](#)

[colony.io](#)

[docs.colony.io](#)

[blog.colony.io](#)