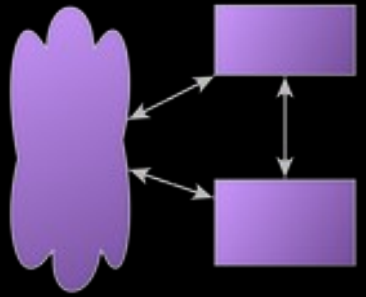
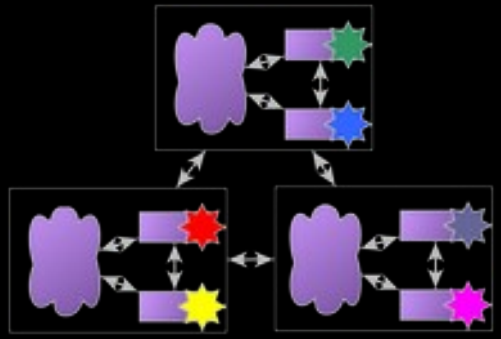
Anarchist economies
from a cybernetic perspective

Overview

Components
Disclaimer, Definitions
Values
Requirements
Anarcho-Communist
Economics



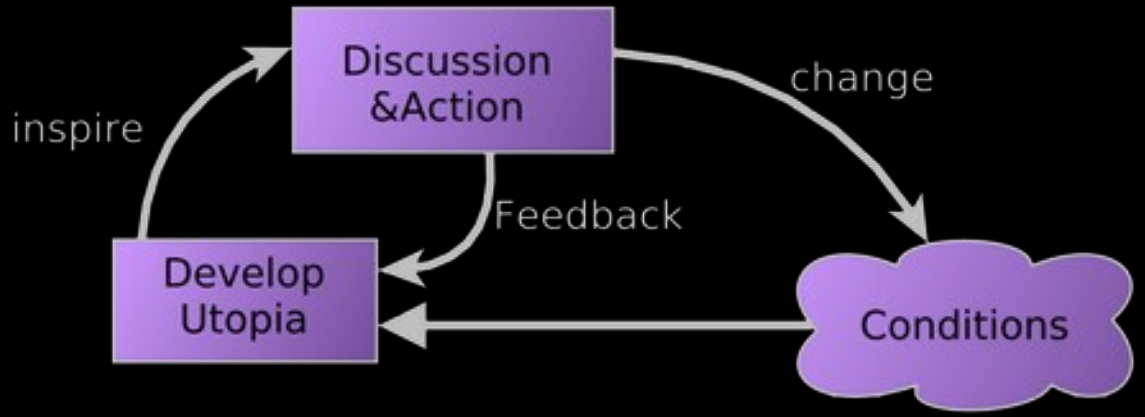
Small Systems
Needs based economy
Decentralized Plans
Viable System Model



Multi-Layer Networks
Structures and Tools
Geographical Levels
Evaluation
Feedback

Disclaimer

Not an expert
No representation
No blueprint



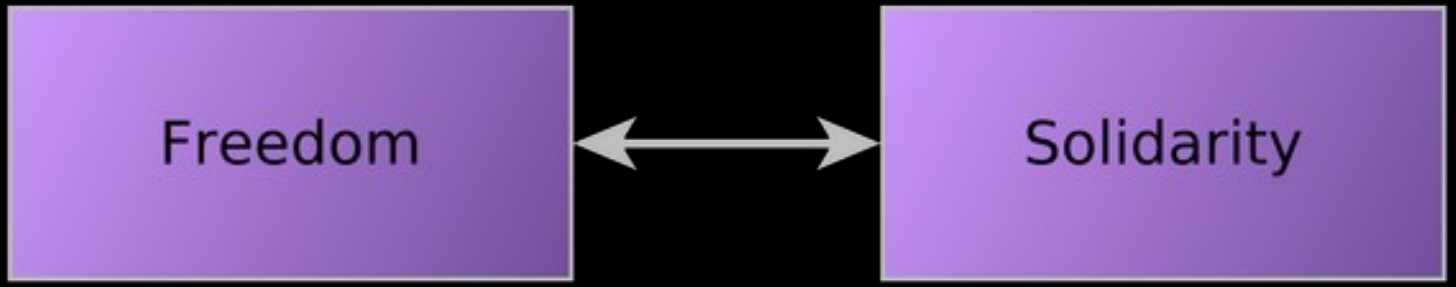
Definitions/Terms

Anarchy: Freedom and Solidarity

Economy: Production and Distribution

Cybernetics: Subfield of Complex Systems, feedback and control
Organizational Cybernetics: apply to organizations/societies

Requirements: Values



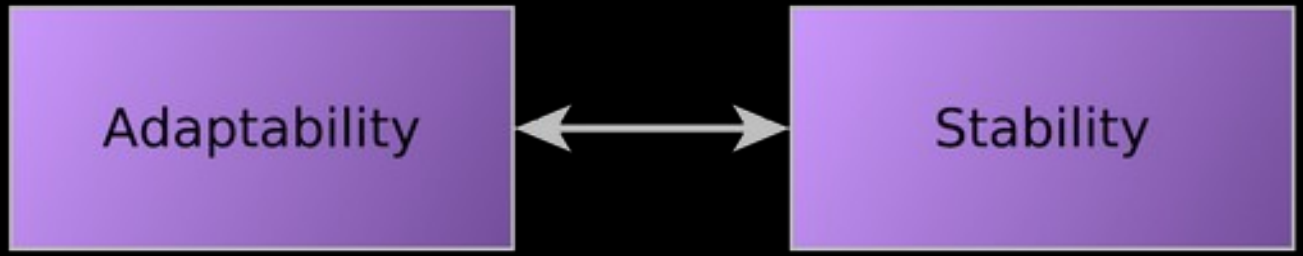
Freedom:
- live a good live
- possibility to decide to the degree you are affected.
- Supply-security

Supply-security
requires **solidarity**

Solidarity:
consider also needs of
- Other humans
- Ecosystem and other animals
- future generations

Including the need for
freedom

Requirements: Practical



adapt to changing needs and conditions

emergence for innovation

To each according to their needs

Ecosystem as actor with needs

prevent shortages

Transparency, Prevent bureaucracy, Dominance

Capitalism Failed

- Caused climate crisis, destroyed biospheres
- Distribution injustices
- Instable (has to be rescued by states)
- Too big to fail
- Interventions have uncertain effects
- Psychological effects: isolation and existential fears

Issues with Markets

Rejecting even anarchist/socialist versions of markets.

- Quid pro quo logic
- Norm of the working human
- Markets are ableist
- Definitions of “work” usually exclude care work
- Prices reduce and distort information
- Proponents often only maximize Freedom, not Solidarity

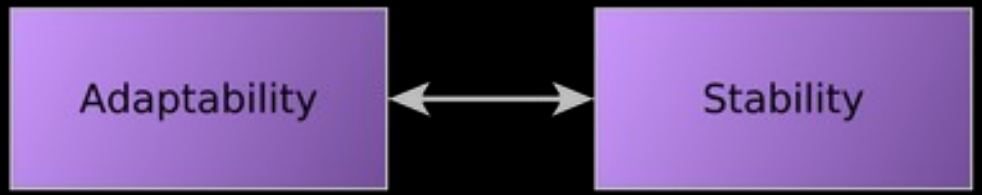
Issues with Worker-Control

Rejecting worker owned, worker controlled concepts (e.g. moneyless version: Commons)

- Concentration of power
- Formation of in-groups
- Norm of human actively standing up for their needs

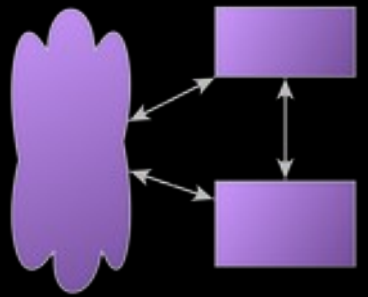
Anarcho-Communism

No markets, no prices, no money, no wages, no borders, no power over others.

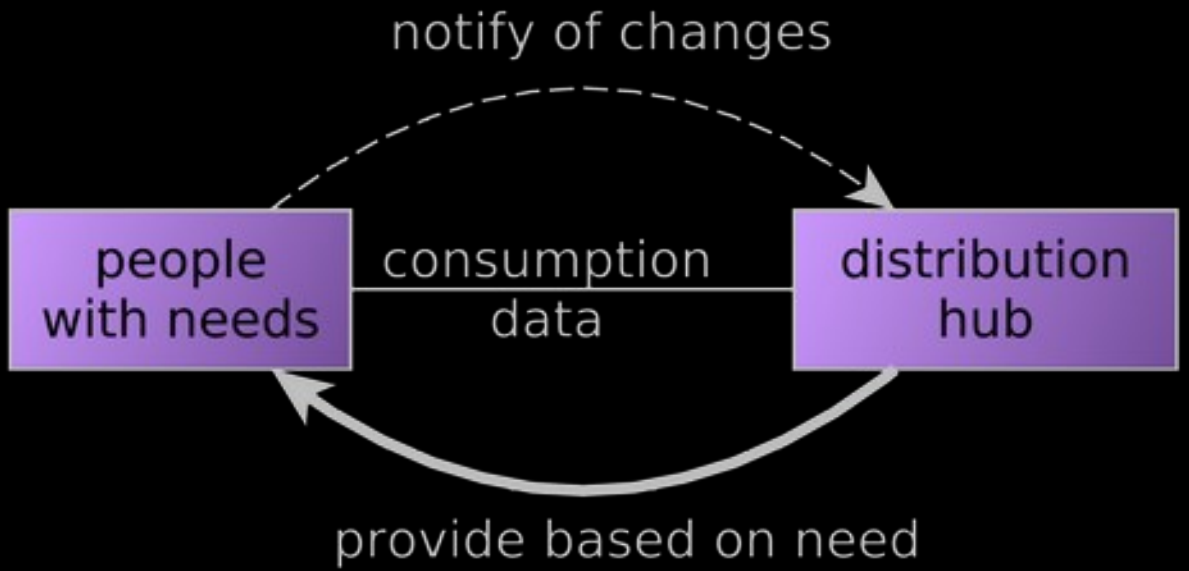


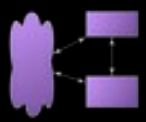
Distribution based on need
Stay within planetary/ecological boundaries
Scarcity can be handled

Decentralized decisions and plans
Decide if affected
Adaptable, transparent



Basic Idea


notify of changes
people with needs
consumption data
distribution hub
provide based on need



Complexity of Needs

No state given definition of needs
No objective needs
Needs vary depending on climate, culture, individual
Everyone can define their own needs
Needs of the ecosystem

There might be conflicts around needs. That’s fine.

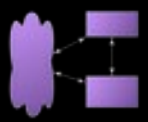
Needs based Economy

Are needs too subjective to be the basis for an economy? → No

Purpose of economies is to fulfill the needs of the people as best as possible. → Needs should be the basis.

Variety of needs as a basis for emergence and adaptation.

Anarcho-communist economies can do it!
(Even in times of scarcity, climate crisis, and complex supply chains)



How **NOT** to handle Complexity

“Reduce” complexity by filtering/ignoring needs

- Capitalism manufactures needs for profit
- Market logic ignores needs of those who can’t pay
- Central plans can’t know about personal needs due to aggregation at a high level

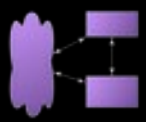
How to handle Complexity

Law of Requisite Variety for economics: The economic structures must have a similar complexity as the economic needs.
→ Network with meaningful connections and fast information flows, transparency and feedback

Complex Adaptive Systems: avoid chaos by light constraints
→ Stability via long-term delivery agreements

Keep it simple! Pragmatic organization.
Decentralization, functional redundancy, no single point of failure

Decentralized Planning in multi-layered network structures.



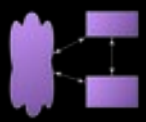
Decentralization

Decentralized self-organization to absorb/encode complexity at the local level:

- Satisfy as many needs as reasonable at the local level
- Understanding variety of needs, solving conflicts, solutions in case of scarcity

What to decentralize:

- Definition of needs
- Definition of work, mode of work
- Decision method
- Distribution method
- Production (when appropriate)
- Planning method
- (partly) key indicators



How to Plan

Plan: Decisions about production and distribution.
Many decentralized plans. **Keep it simple!**

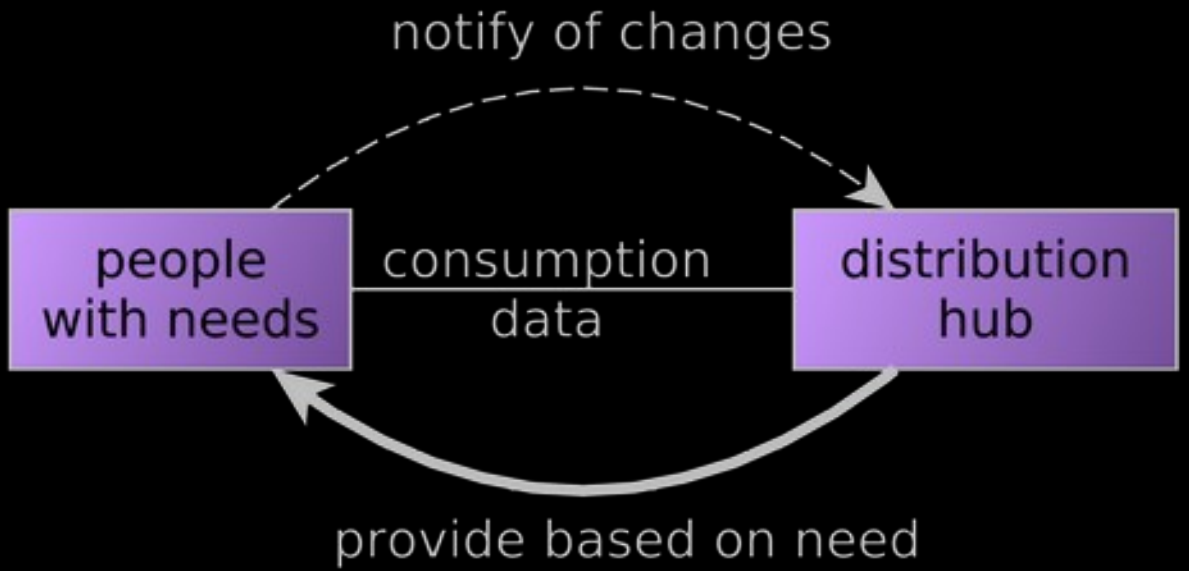
Plan needed?
1. Enough to take? → no plan needed
2. Nothing changed? → no plan needed
3. Act within constraints of agreements? → no plan needed
4. Can it be decided more locally? → no plan needed on this entity

How to Plan

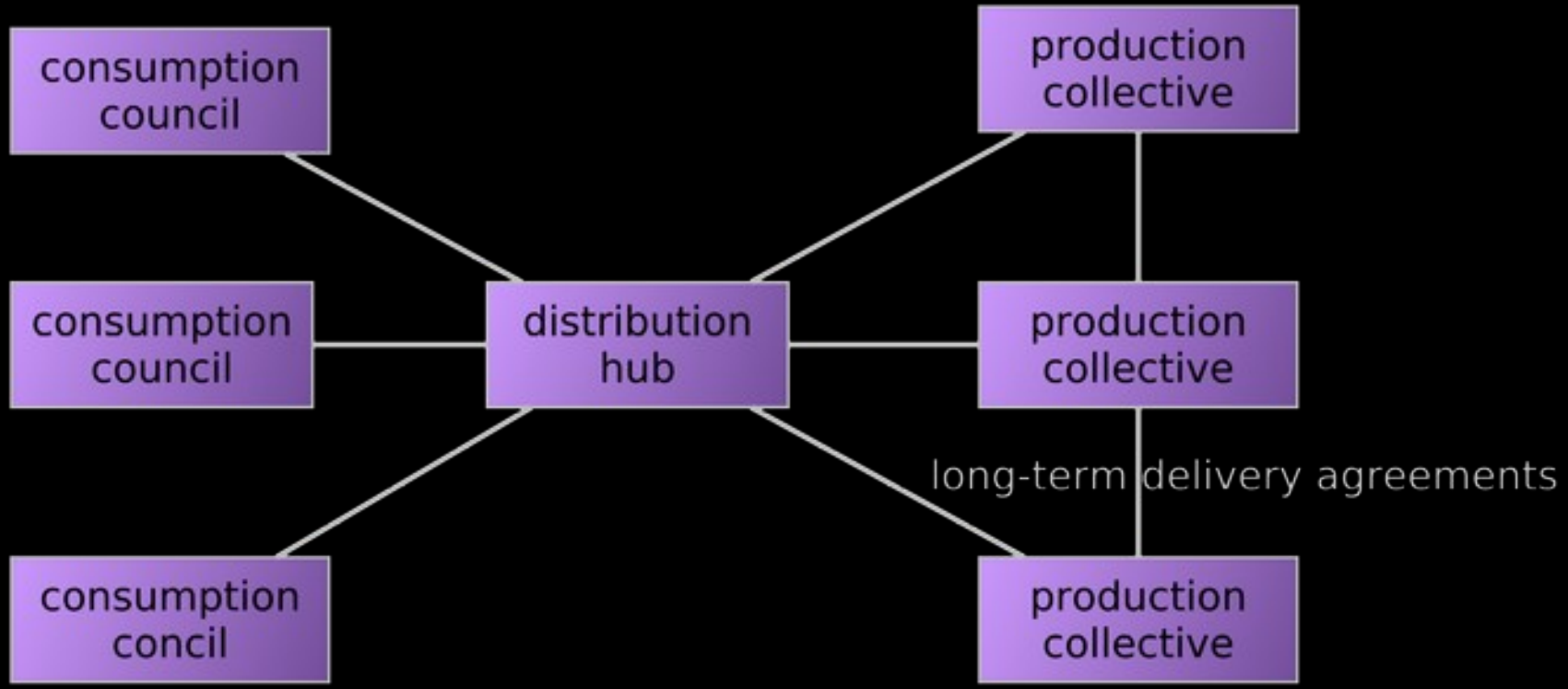
1. Transparency for current situation (key indicators)
2. Consumption councils: What is needed?
3. Production collectives: What can be provided?
4. Coordination committees facilitate in finding a solution by using e.g. data visualization, in kind calculation, predication, optimization, conflict resolution
5. Gather Feedback, iterate
6. Everyone affected agrees on a proposal

Different from both state control and worker control

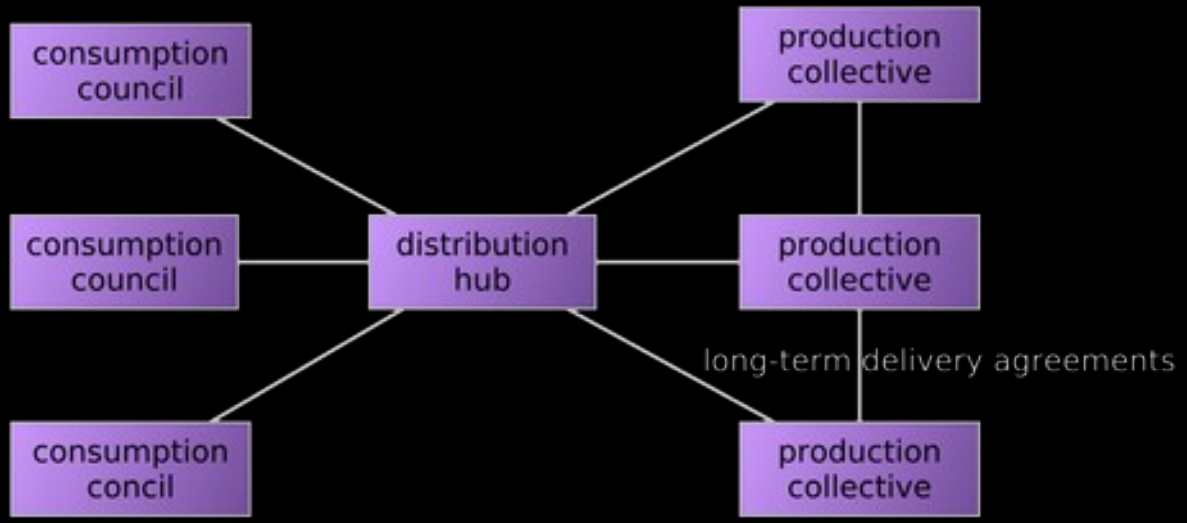
Basic Idea


notify of changes
people with needs
consumption data
distribution hub
provide based on need

Basic Idea


consumption council
production collective
consumption council
distribution hub
production collective
long-term delivery agreements
consumption concil
production collective

Basic Idea



Coordination?

Self-organization?

Feedback?

Innovation?
Strategy?
Future Plans?

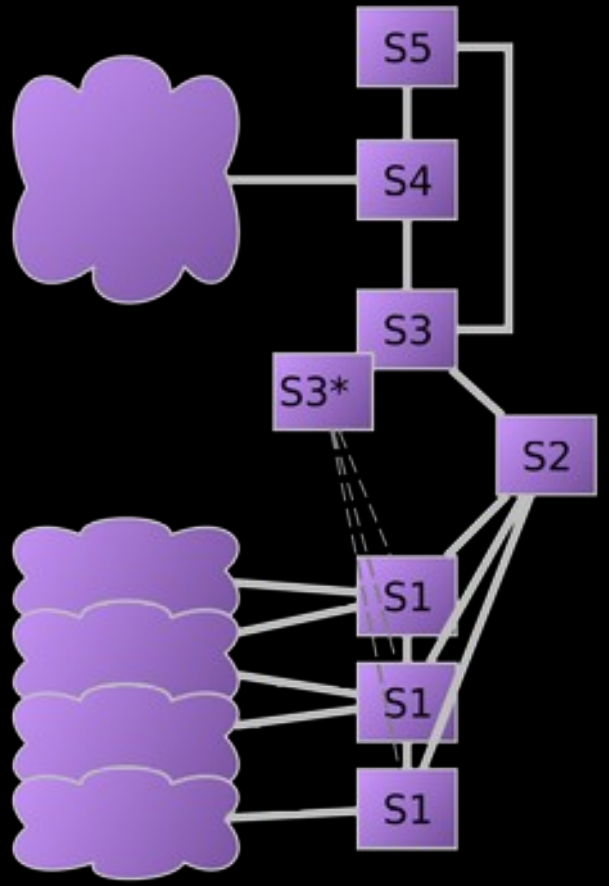
Vision? Purpose?

Viable System Model

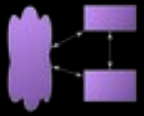
Organizational Cybernetics
Economy in Chile 1971-73

Debugging tool, protocol for cooperation

S1 autonomous units within constraints
S2-S5 functional requirements, met e.g. with meetings or working groups



* “levels”, “layers”: Functional structure, not dominance.

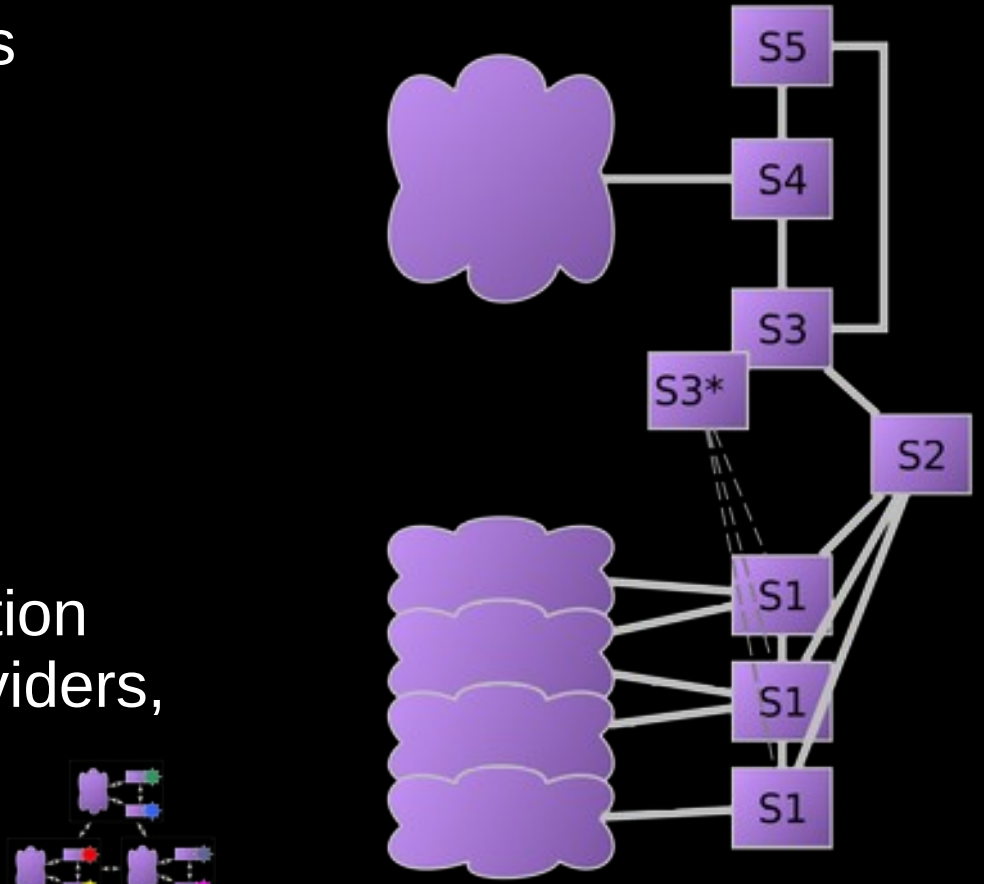


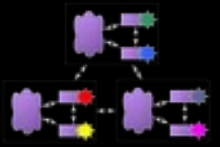
Viable System Model

Network in which nodes and edges have specific functions/purposes.

Recursive.
Network of Networks.

Multiple Layers:
- Geographical recursion.
- e.g. federations of conflict resolution collectives, of medical service providers, of electronics producers



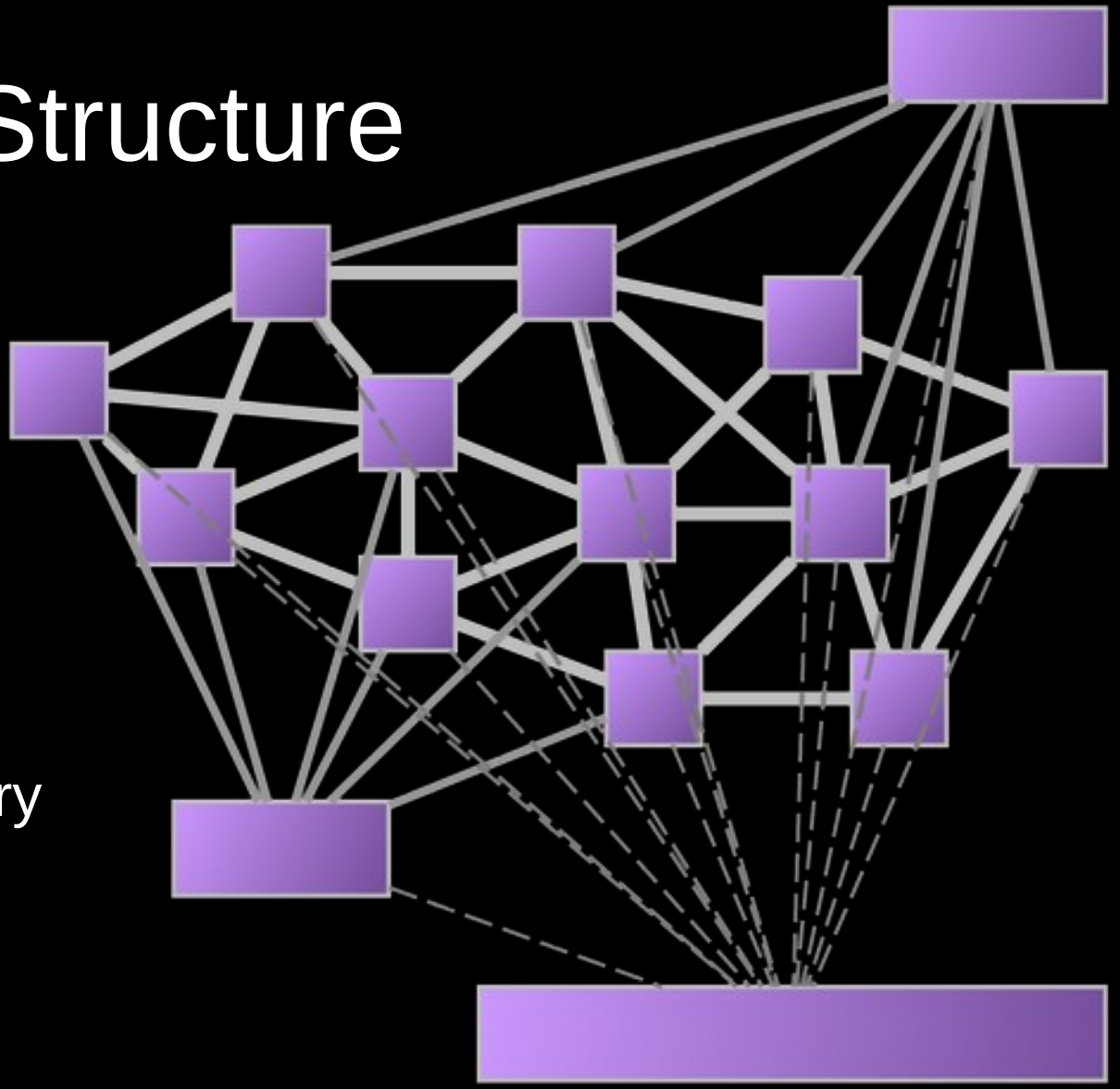


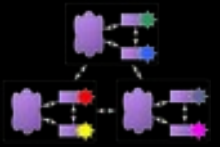
Structure

Network, more densely connected at the local levels

Local communities, supralocal level, planetary level

Planetary structure has very limited number of topics





Requirements for Tools

Tools are just tools to serve human needs, they should never decide themselves or dominate humans.

Tools should be accessible for all.

Aggregate data for higher layers for privacy and simplification.

Technical tools are not a requirement. Communities can live without them.

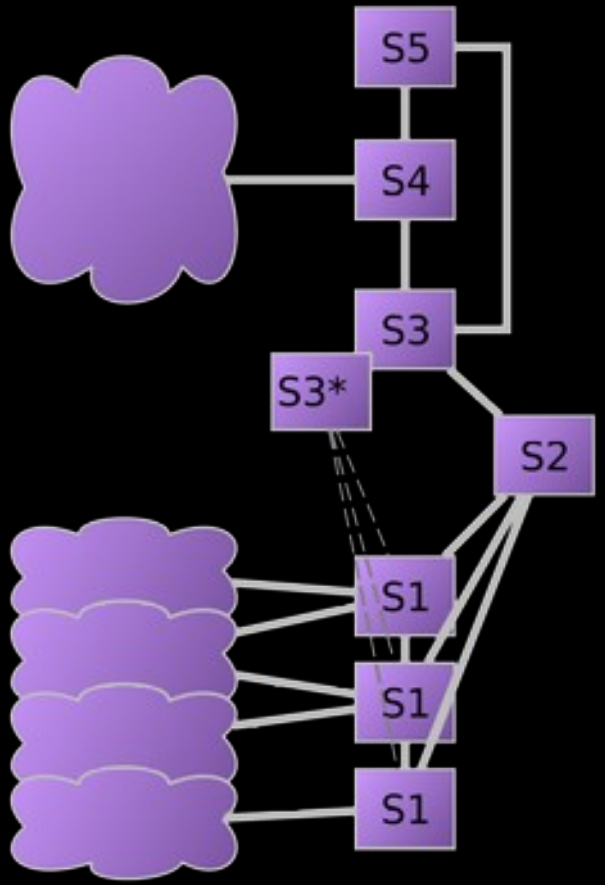
Some Tools

All Systems:

Conflict Resolution: teams of trained experts

Decision Making: online tools, delegation if needed

Decentralized Federated **Information System**: Subscribe to topics you are interested in

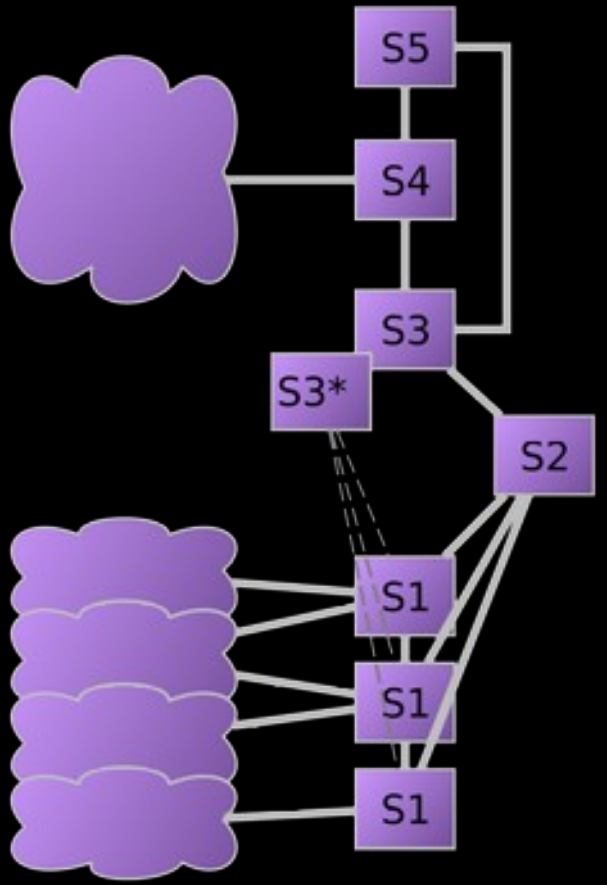


Some Tools

S1 (Operational Units)

Open Knowledge Repository: Research results, processes for production, best practices

Decentralized Federated **Data System**:
- collection, visualization of key indicators
- transparent access for all
- auto-tracking of inventory
- transparent supply-chains

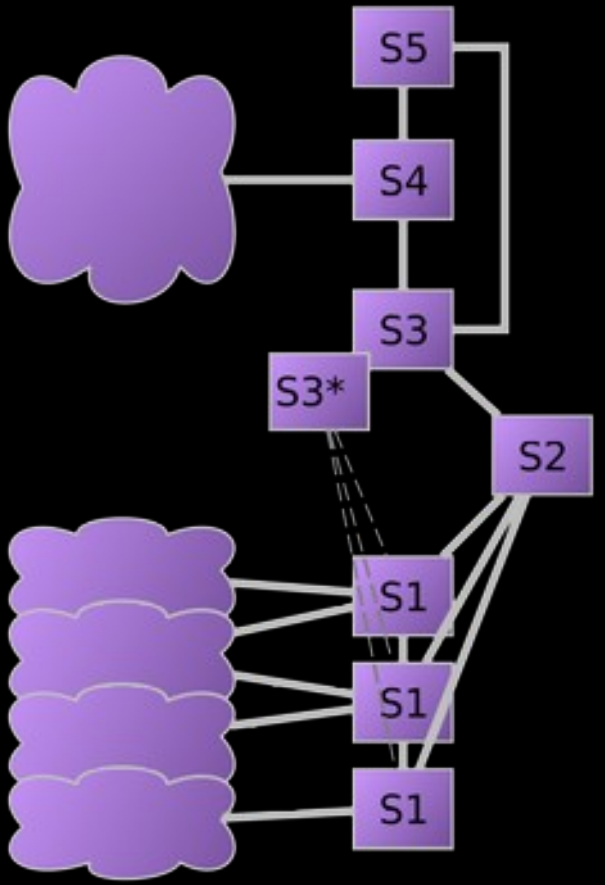


Some Tools

S2 (Coordination)

Information boards:
- **Information System** and
- **Data System**

Conflict resolution methods

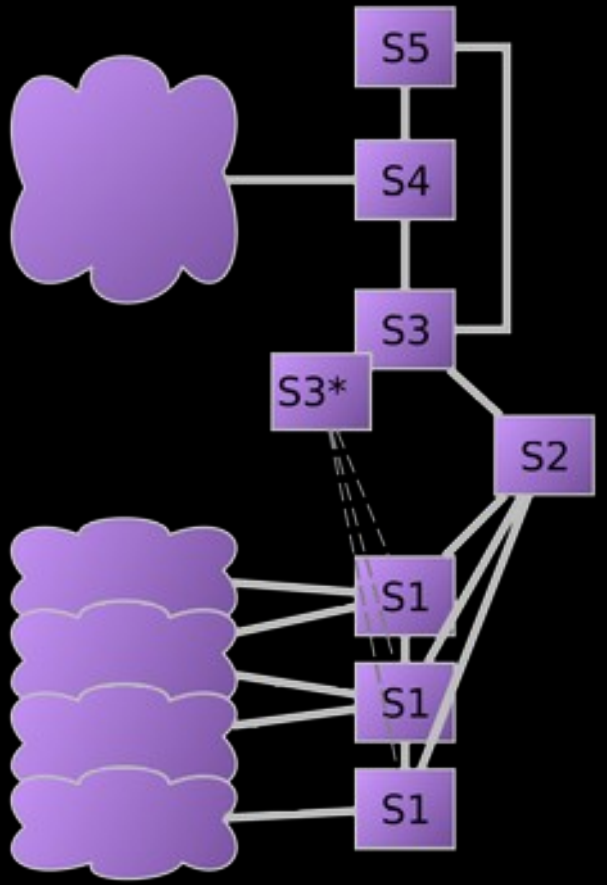


Some Tools

S3 (Self-Organization)

Data Analysis: detect outliers for S3* feedback
Data Aggregation
Data Visualization/Info-Graphics: make data easily accessible
Preference matching optimization for distribution. **Routing** for transport.

Agreements: repository of relevant agreements (accessible for all)



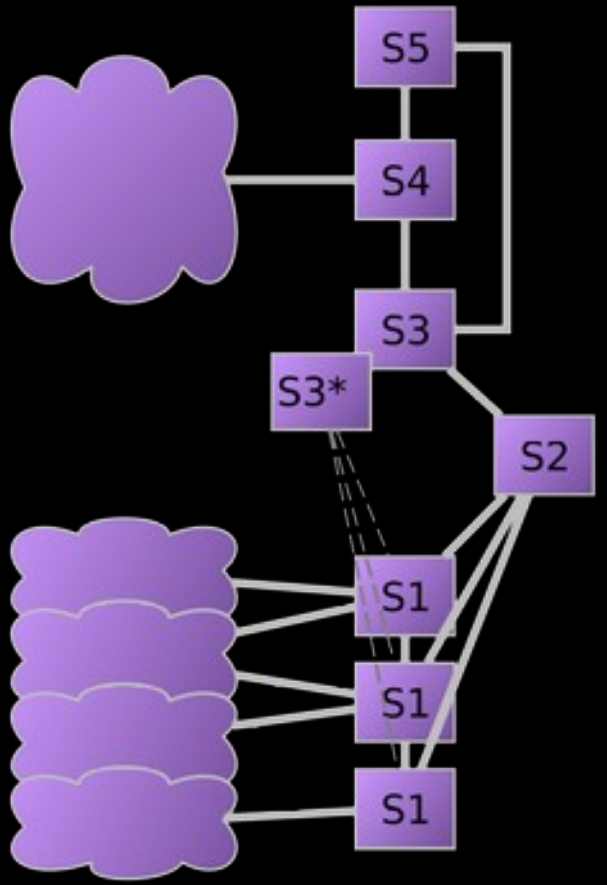
Some Tools

S4 (Future Planning)

Forecast: based on data from distributed federated data and information system

Optimization: e.g. for maximizing utility given environmental constraints, graph algorithms for supply chain optimization

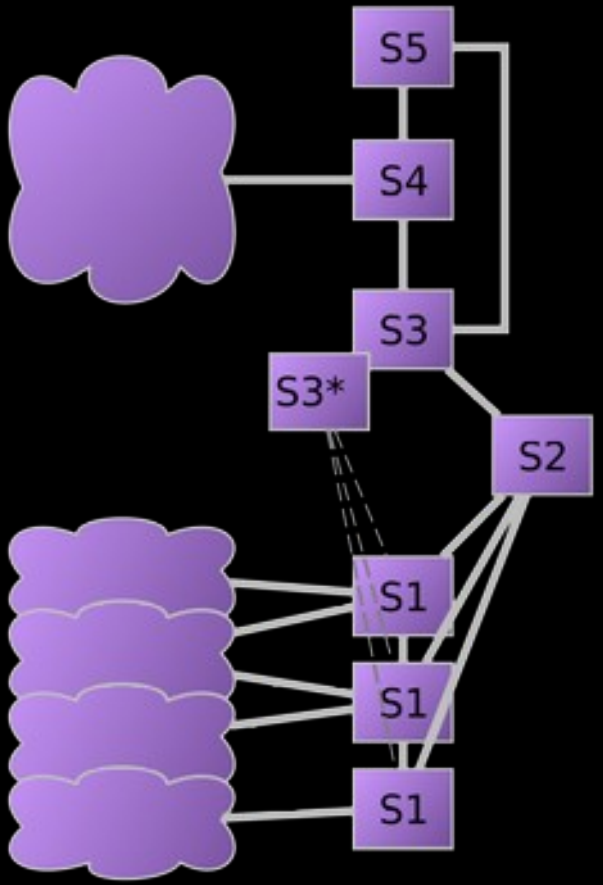
Simulation: when deciding about multiple options, future impact



Some Tools

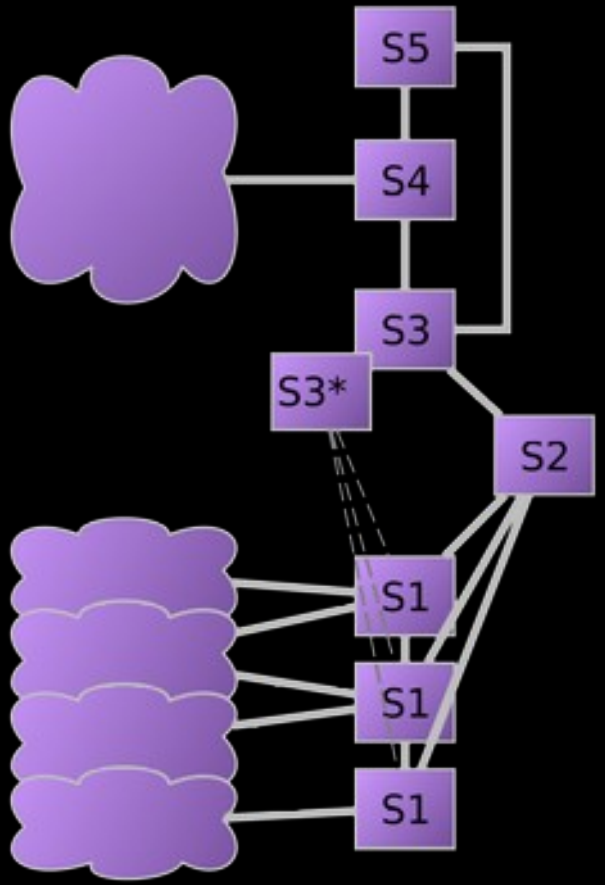
S5 (Vision, Purpose)

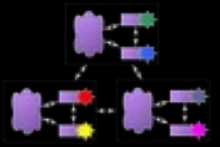
Data Visualization
Decision Support tools
Repository of Agreements



Decentralized Planning

**Planning is distributed through various systems S1, S3, S4, S5,
on all levels of recursion,
and in all functional layers of the network.**

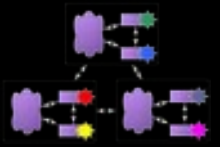




Walkthrough

Start bottom up! Use the building blocks to build higher level structures (recursive patterns, functional redundancy, resiliency).

The goal is to move information collection and decision-making to the lowest reasonable level while still adhering to planetary limits

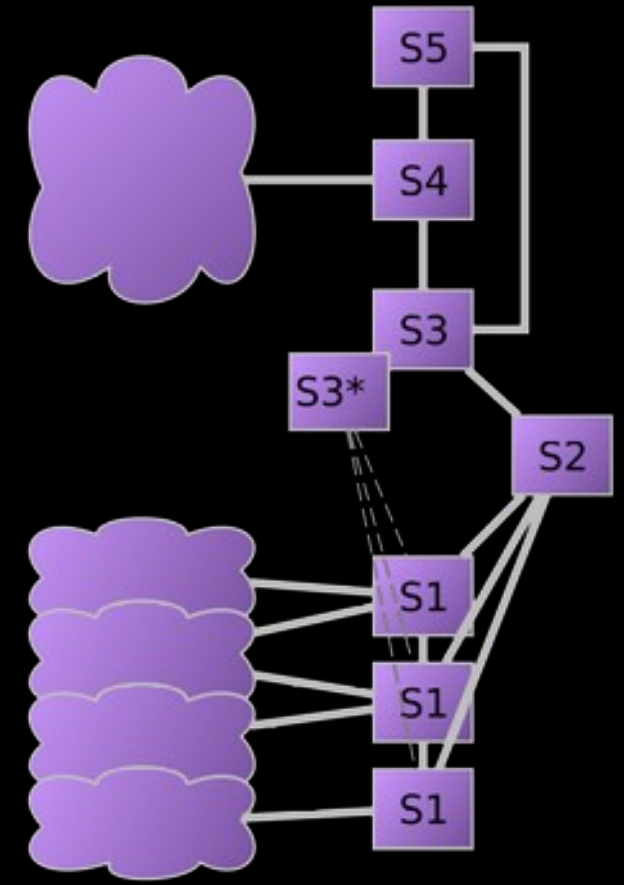


Local Level

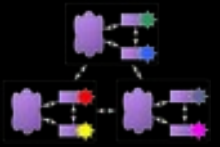
Community of ~500 people.
They might share a common vision, goal, culture, …
Plans have a good chance of working out as decided on in face-to-face consensus, conflicts can be handled face-to-face, social pressure, social control

Structures:
Consumer councils
Production collectives
Coordination committees

Local Level

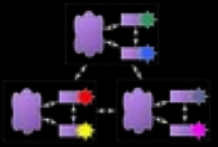


S5: meeting about present vs future priorities, goals, and vision
S4: future plans meeting
S3: Coordination committees, conflict resolution, preference matching
S3*: digital/personal feedback
S2: Information boards, digital boards, face-2-face talk
S1: Consumer councils, Production collectives, special purpose groups



Local Level

Consumer council P47: @food_coordination 5 new people moved in. Our consumption will increase.
Kindergarden: @all we need 2 volunteers to work with us today. Some of our regulars are sick. #workSupportRequest
Construction Collective: The plans for the two new houses are uploaded. Requesting feedback until the 24th. #decisions
Work distribution committee: Proposal for unpopular work distribution. Objections until the end of the month. #decisions
Veggi-Collective: @resource_distribution due to the drought we expect higher water consumption.

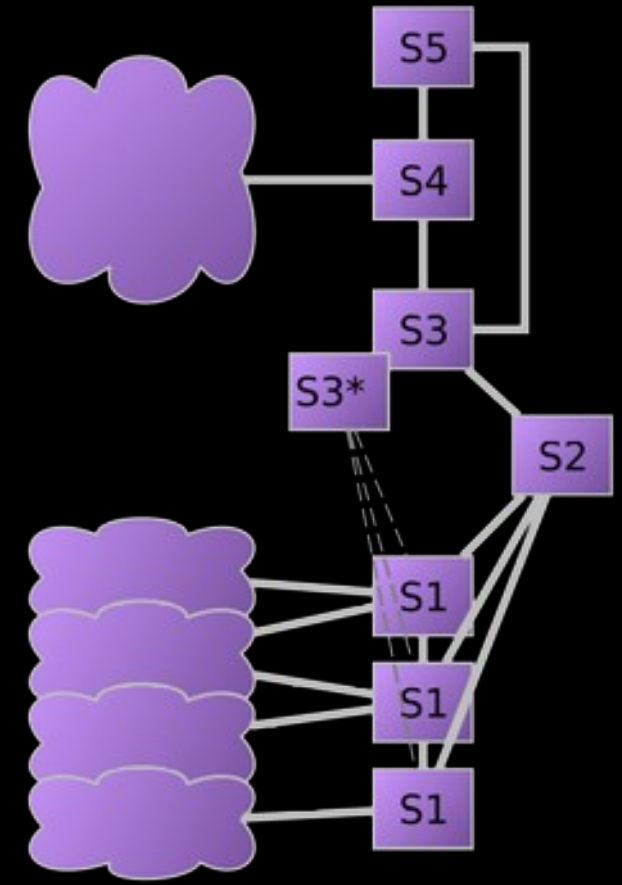


Supralocal Level

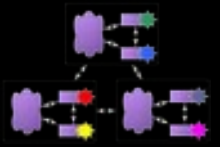
Network of local communities.
Connecting diverse communities.
Long-term delivery agreements (quantities) between communities
Supralocal infrastructure

Structures:
Collectives for supralocal infrastructure
Coordination committees

Supralocal Level

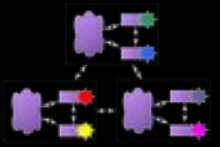


S5: present vs future priorities, goals, vision (face-to-face or online)
S4: Data analysis, forecasts, simulations, optimizations, innovation, strategy
S3: Coordination committees, conflict resolution, aggregation
S3*: digital feedback, push notifications
S2: digital information boards, tracking of scarce resource consumption, open data
S1: Communities, Infrastructure collectives



Supralocal Level

Renaturation Committee: new proposals are uploaded. #decisions #biodiversity
Hedgehog Community: We are requesting construction work support after the flooding. @work_coordination
Transport Collective: The weekly food delivery to the regional distribution center is delayed by 2 days.
Resource Conflict Resolution Collective: The next meeting on regional water distribution is on the 28th. #water
Scarce Resource Distribution: The Bakunin Community refused to provide reasons or participate in conflict resolution after heavily overusing their budget of CO_2 emissions. #scandalization



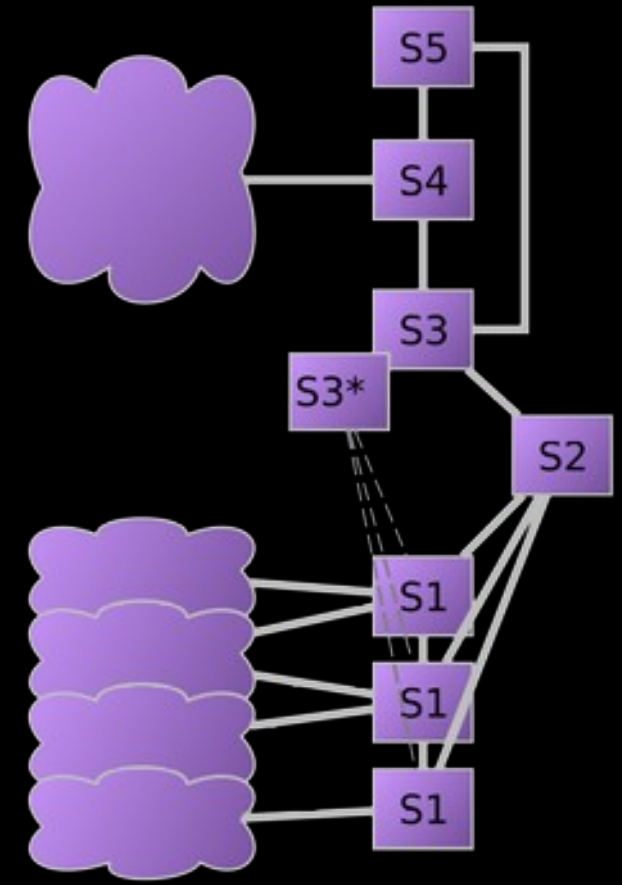
Planetary Level

Not in an colonialistic fashion

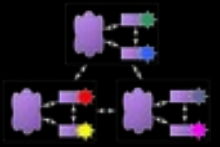
Questions like climate crisis, trans-continental deliveries agreements

Structures:
Coordination committees for planetary questions

Planetary Level



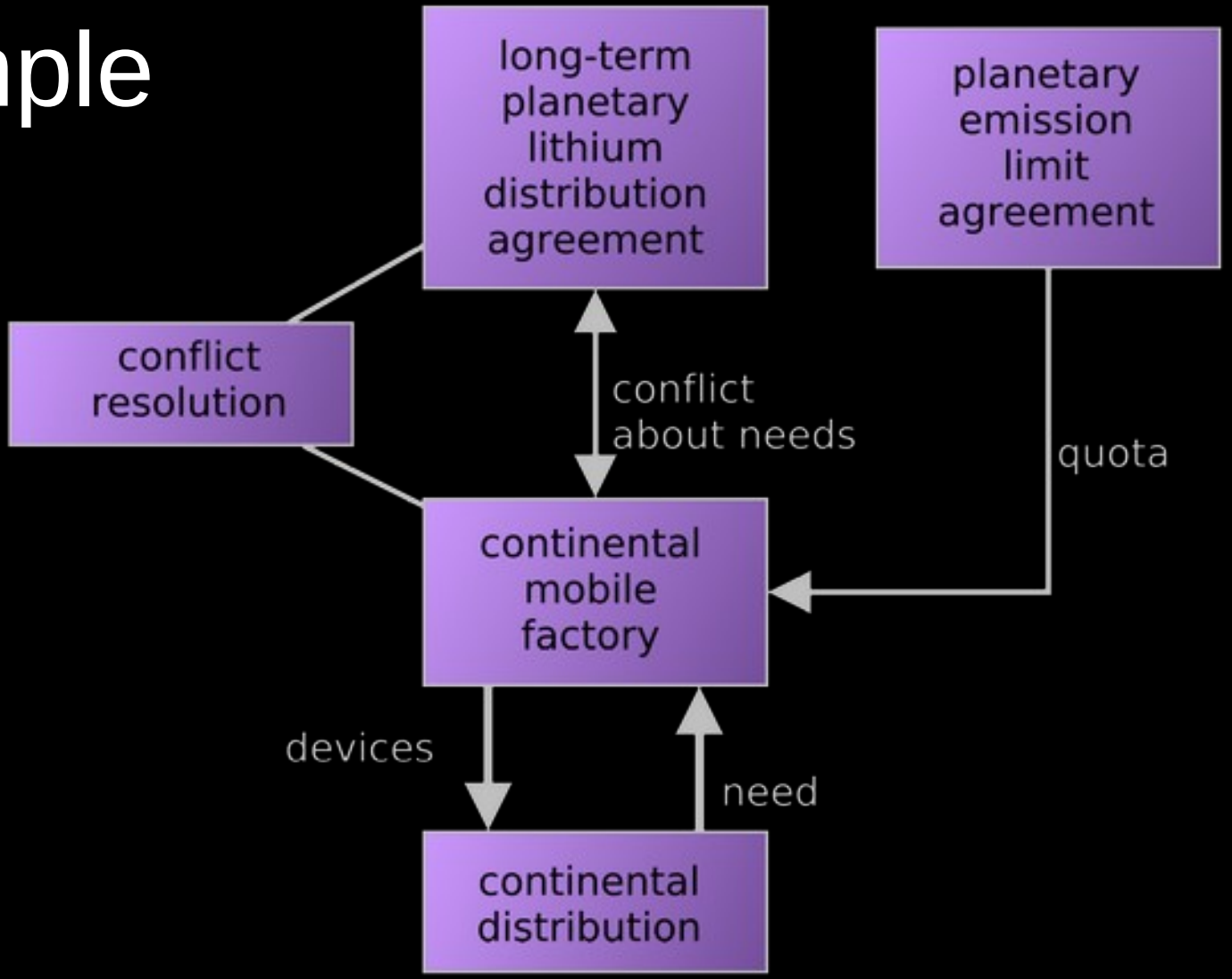
S5: Priorities, goals, vision, planetary online discussions
S4: Data analysis, forecasts, simulations, optimizations, innovation, strategy
S3: Coordination committees, conflict resolution, aggregation
S3*: digital feedback, push notifications
S2: digital information boards, tracking of scarce resource consumption, open data
S1: Planetary question working groups

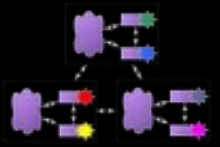


Planetary Level

Scarce Resource Distribution Committee: new proposals on lithium distribution are uploaded. #decisions #lithium. This includes a share for #research that collectives can apply for.
Federation of Banana Producers: we estimate to provide 2 Mt more of banana for planetary distribution compared to last year. #distribution @transport_coordination
Climate Crisis Mitigation Working Group: After consulting with researchers and communities from all continents, we strongly suggest a CO_2 emission limit of 25 Gt next year. #decisions @scarce_resources
Process Database: an improved process for the production of solar panels was uploaded #solar #research

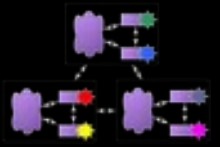
Example


long-term planetary lithium distribution agreement
planetary emission limit agreement
conflict resolution
conflict about needs
quota
continental mobile factory
devices
need
continental distribution



Which Tools

Conflict Resolution: CA (community accountability), RC (restorative circles), ODR (online dispute resolution)
Decision Making: loomio, kialo
Federated **Information System**: fediverse
Open Knowledge Repositiory: Wiki
Data Analysis: Pandas (python), SciPy (python)
Forecasting: Prophet
Data Visualization: Plotly, Seaborn
Optimization: PuLP (python), Pyomo (python)
Graph Algorithms: networkX (python), OSRM (Open Source Routing Machine)
Simulation: mesa (python), MARL (multi-agent reinforcement learning)



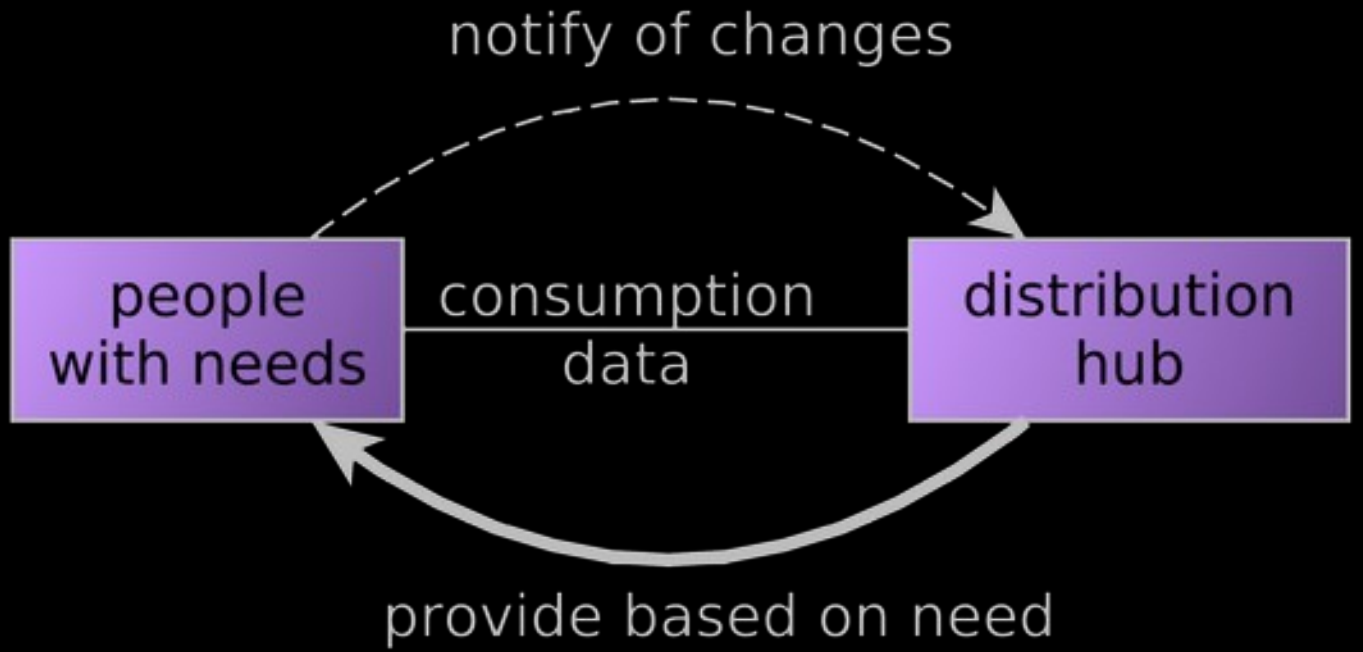
Evaluation

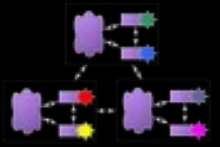
Is the proposed concept viable?

- Tools ready?
  - accessibility could be improved
- Computationally?
  - Decentralization → faster run times of e.g. optimization tools
- Are we organized?
- Conflict resolution capabilities?

Evaluation

Too complicated?

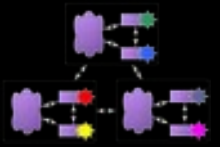




Evaluation

More “efficient” than capitalism or other proposals?

- Allocative Efficiency: resources go where they are actually needed or can do the most good
- Environmentally efficient fits into the system
- Optimizes both freedom and solidarity

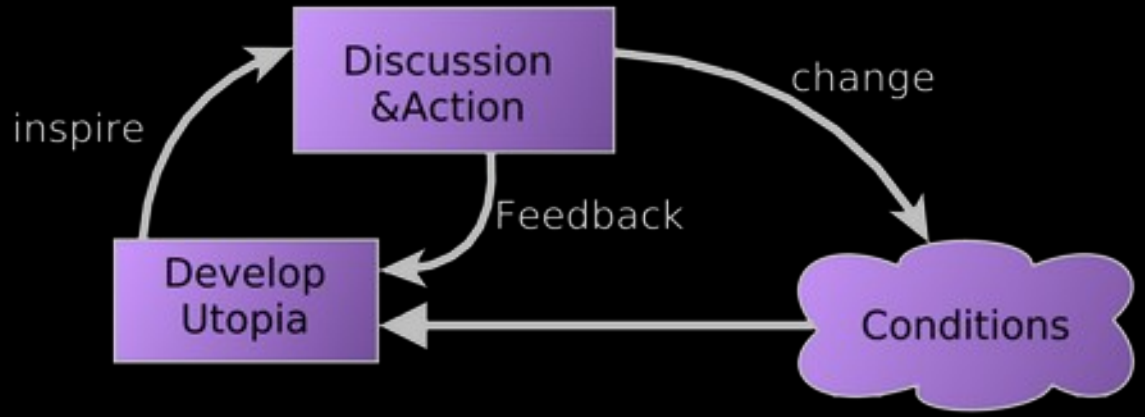


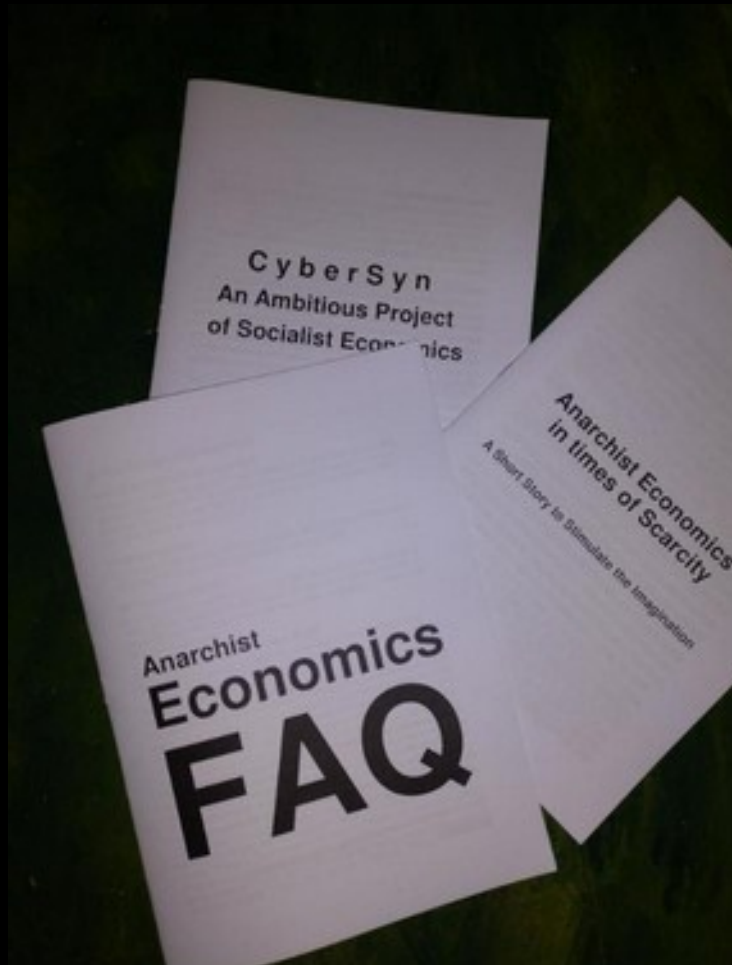
Evaluation

How do we get there?

- Prefiguration: Create needed structures and tools now
- Synthesis Federation as network with light constraints (prefer over platformist flavors)
- Discuss how your work place/sector would be organized after the transformation and what to do during the transformation

Questions? Feedback?





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