



Faculty of Design

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Institutional literacy and new institutions and rules for integrated systems of production

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Divisions to Integrations: An Ecological and Economic Foundation Supporting Regenerative Modes of Production

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Regenerative Systemic Design
Value adding, inspired by living-systems

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Introduction

- 1) What are some of the Rules for Production?**
- 2) What are some of the META consequences of these Rules?**
- 3) Inspirations from Living Systems**
- 4) Some New Rules**



Production is not just about organising flows of matter and energy

What is our organisational form?

What is our purpose or goal(s)?

How big does the structure need to be?

How many activities do we do?

How big motivate collaboration?

How we manage R&D?

How do I manage the team?

Who does what?

How do we manage I.P.?

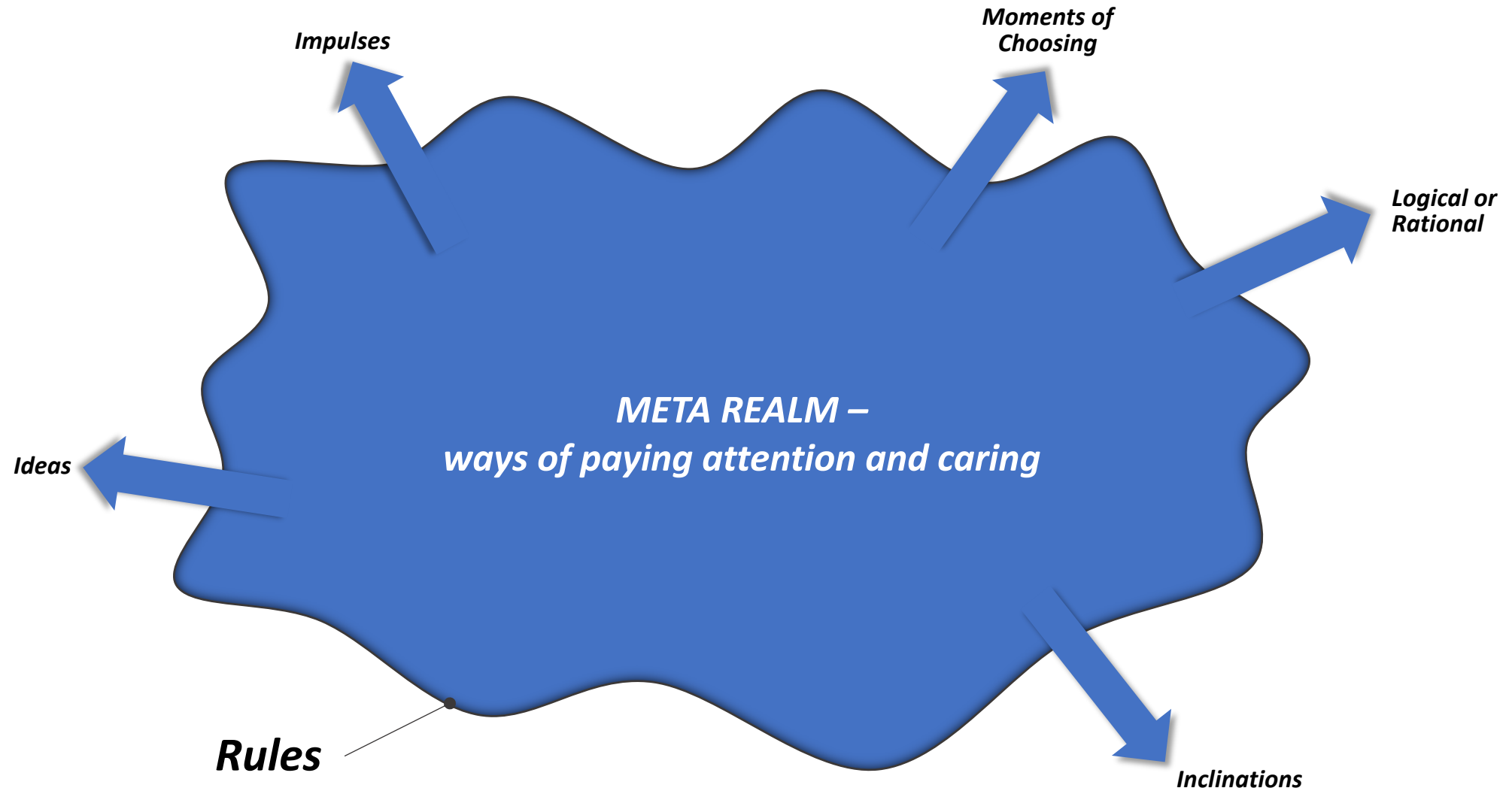
What is our business model?

How can we be economically regenerative?

How do we manage investments and distribution of incomes?

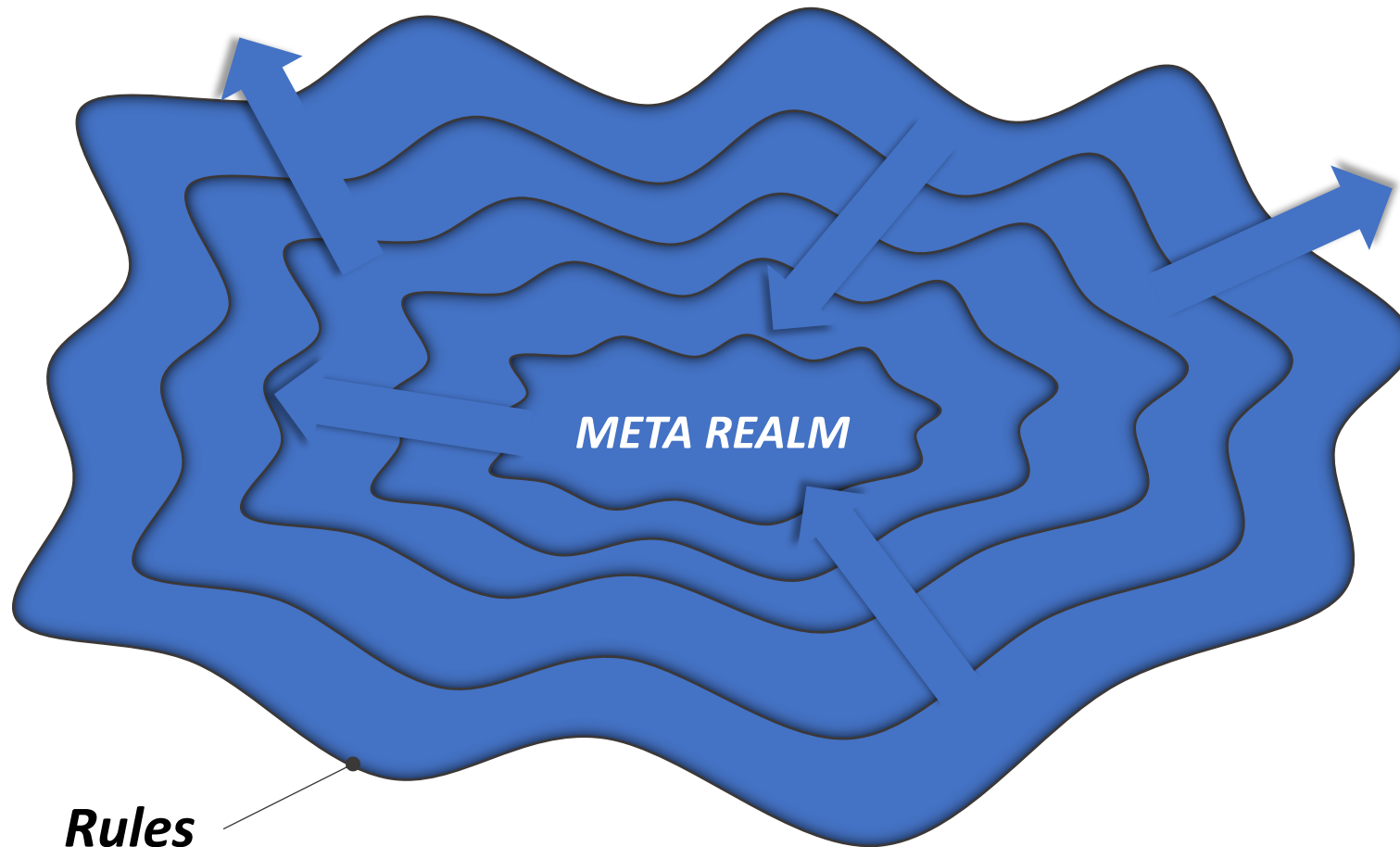


Rules that we make that makes a META





Embedded Meta Realms : Upward and downward causations



Rules



***1: What are some of the Rules for
Production?***



Production is Embedded in a Geography





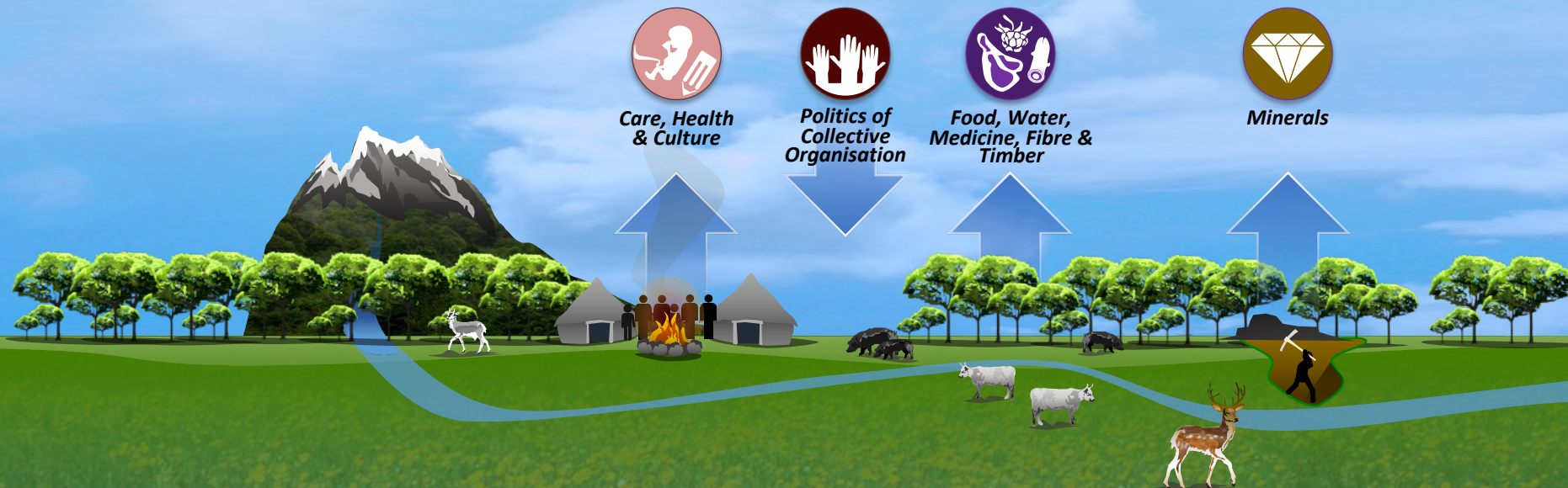
Production is Embedded in an Economy

1: (RE)Production

A: Mobilising Effort

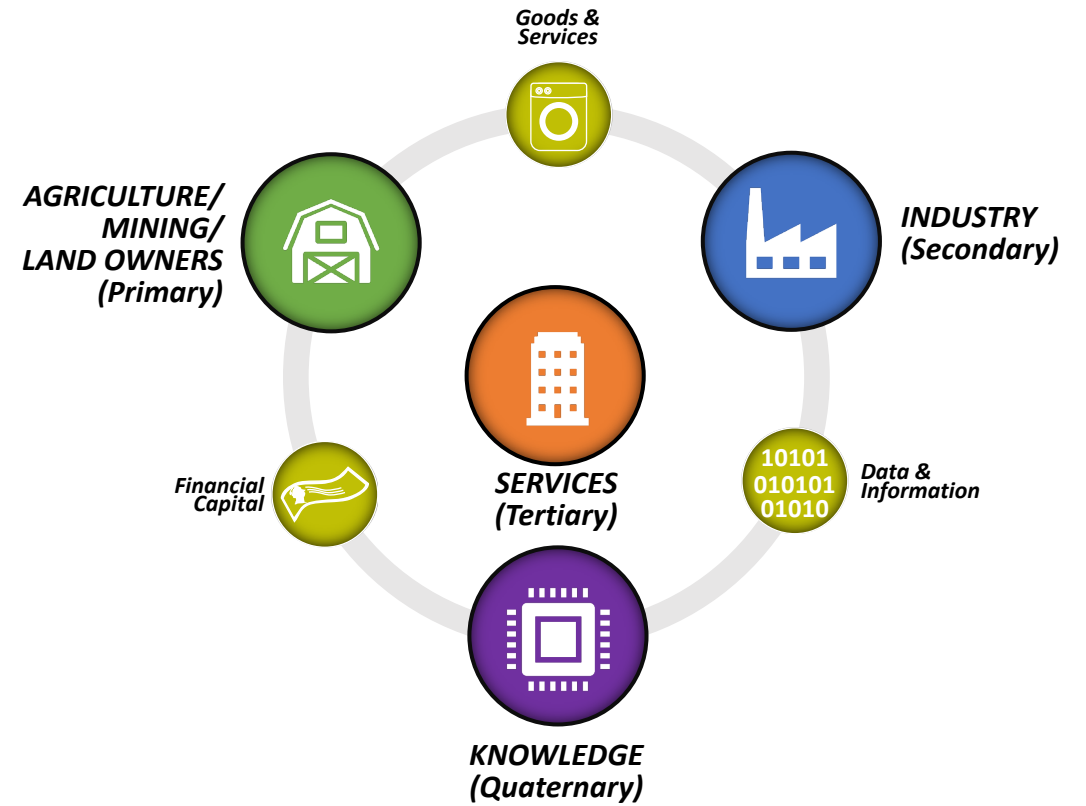
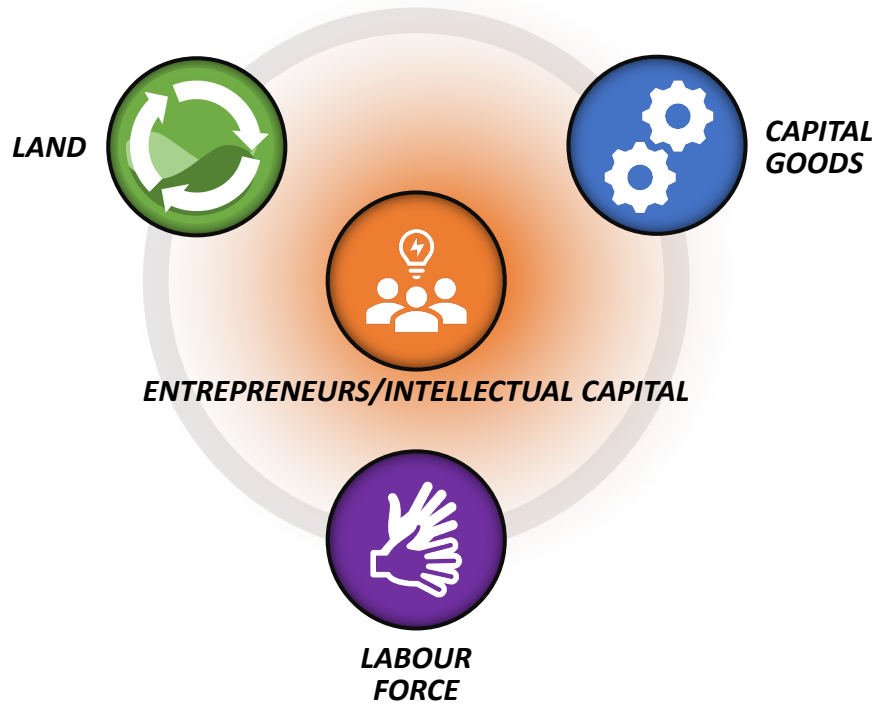
2: Distribution

B: Allocating Effort





Factors – or *Sectors* - of Production have Power

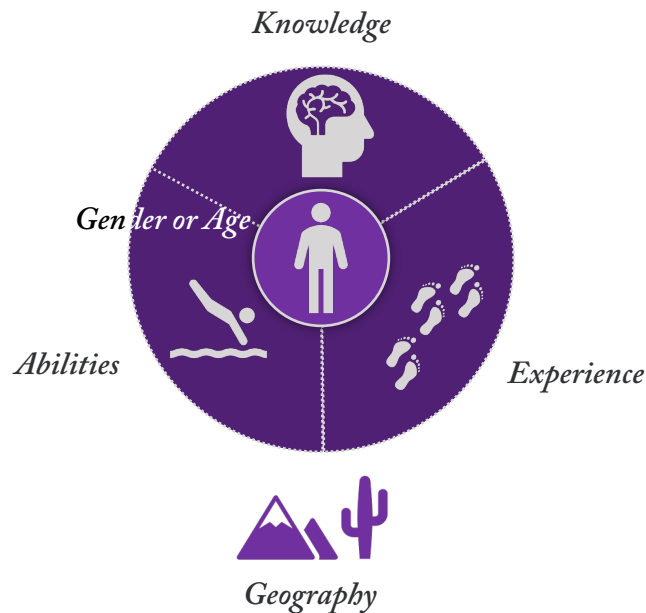




The Production Process Needs to be Organised

“Division of labor, a phenomenon as old as society, springs from differences inherent in the facts of sex, geography, and individual endowment...”

Karl Polanyi



**10-20 Pins
Per Worker/Day
Before 1832**



**4800 Pins
Per Worker/Day
(1832)**



**800,000 Pins
Per Worker/Day
(1980)**

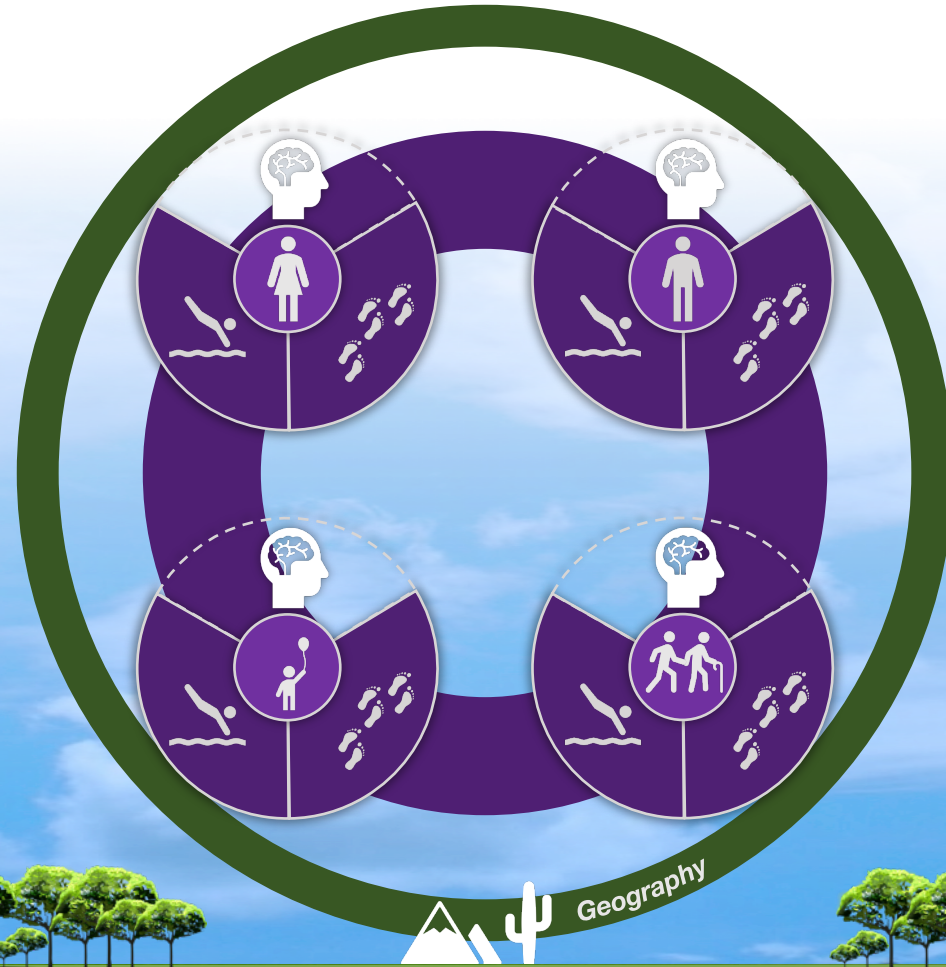


2: What are some of the META consequences of these Rules?

Focusing on (for this talk):
A) Division of Labour



Foragers : Social Division of Labour

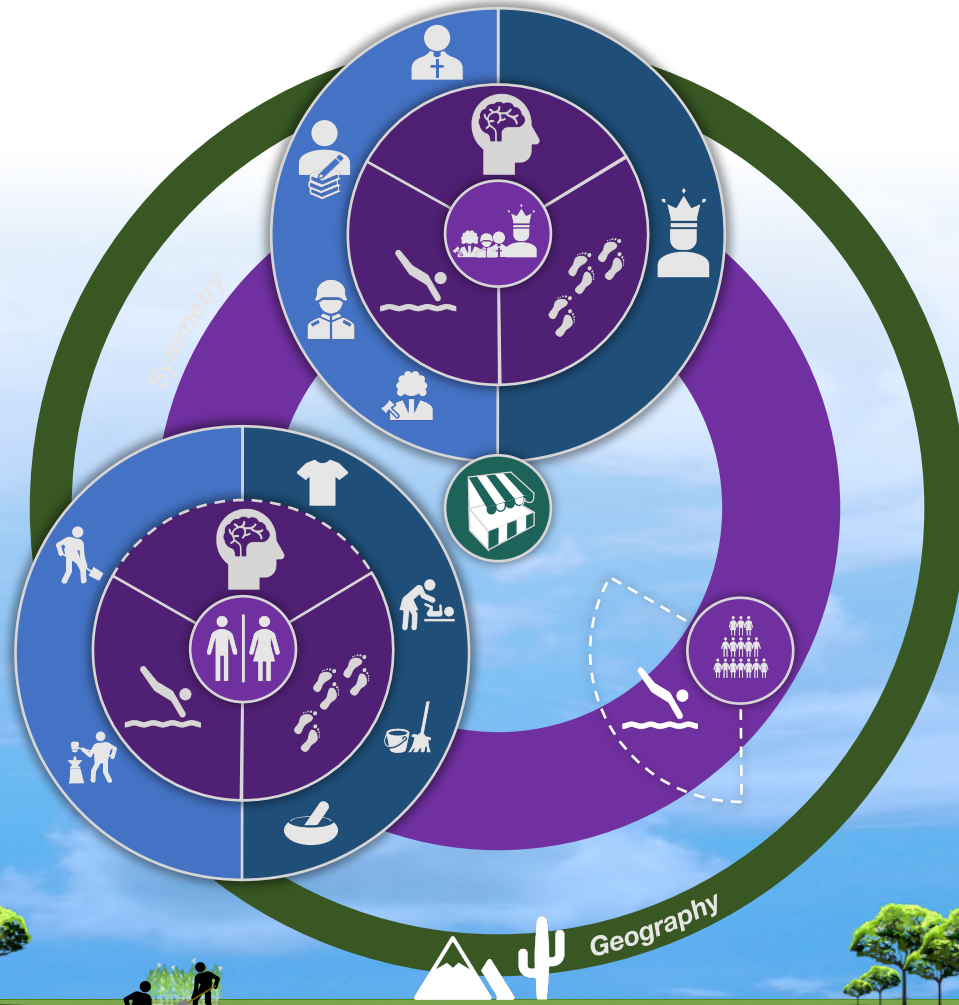





Geography





Farmers : Divisions Within Households and Between Households




Elites & Aristocrats

Peasants

Forced Labour





Uber Example

Driver



Knows where to find customers

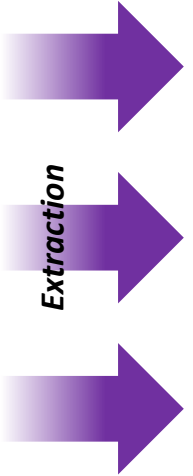
Experience

A-Z Map Memory

Knowledge

Can Drive

Abilities



Trust

Efficiency

Quality Checking

Working Agreements

Insurance Certifications

Transactions

Data

Interface

Platform

Passenger





3: Inspirations from Living Systems?

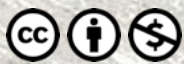


Living Systems Can Use: Cooperation Within Groups qualitatively Equal Kinds of labour





Living Systems Can Use: Strength in Numbers



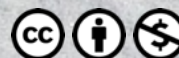


Evolution: Group Selection (Vs. Individual Selection) and Altruism

“Competing is intense among humans, and within a group, selfish individuals always win.

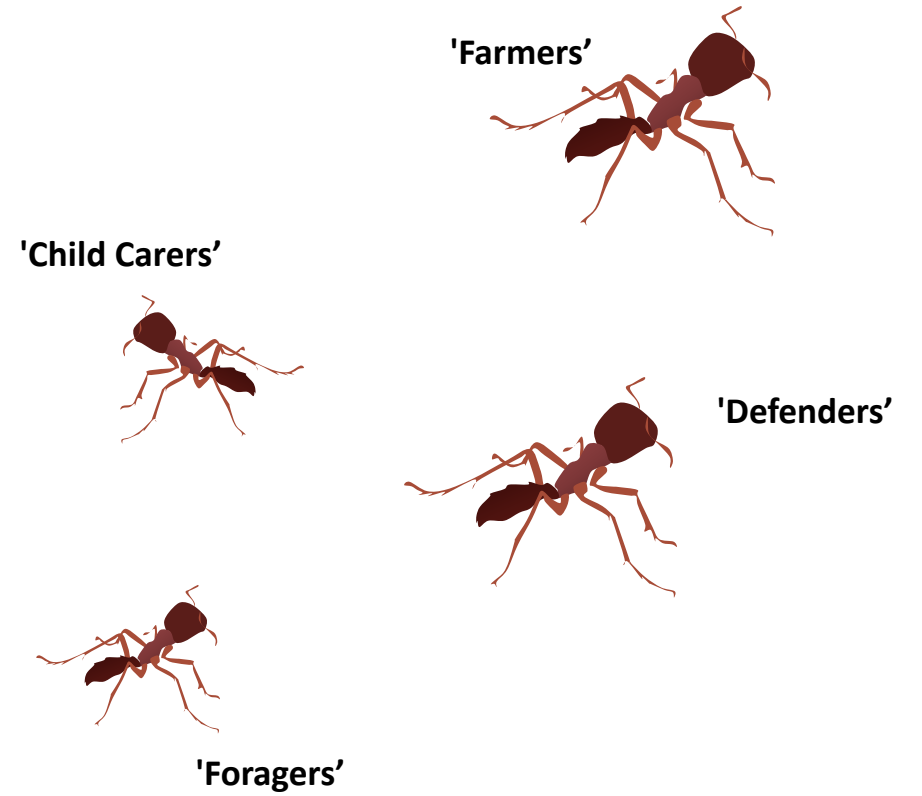
But in contests between groups, groups of altruists always beat groups of selfish individuals.”

E. O. Wilson





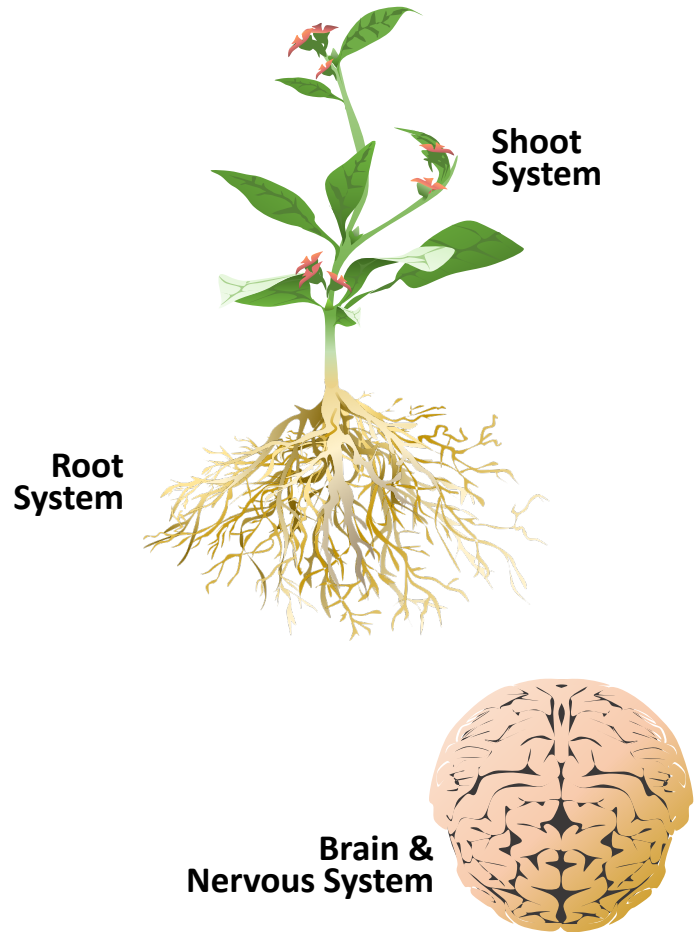
Living Systems can have a Division of Labour : Social Segregation : Eusocial Animals



Leaf Cutter Ants

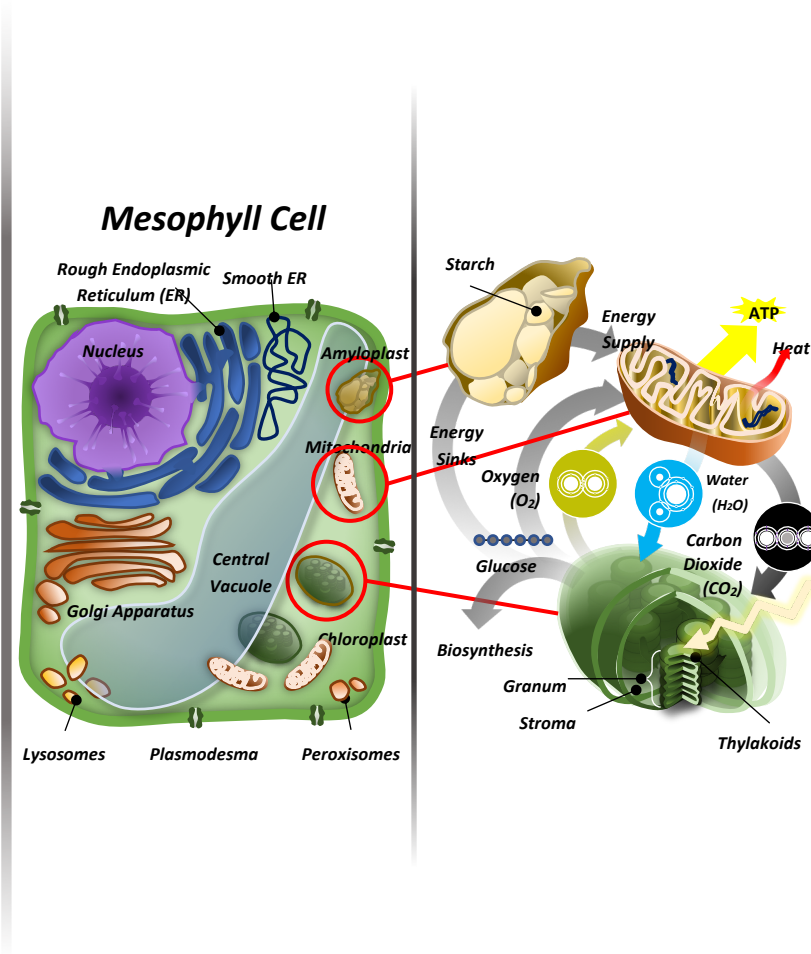


Living Systems do have a Division of Labour: Segregation of Tasks



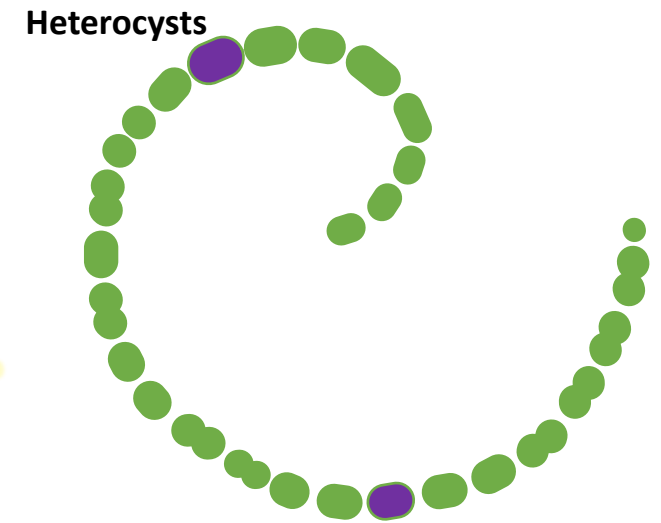
Roots, Shoots, Brains...

Organ Segregation in a Multi-Cellular Individual



Photosynthesis and Respiration

Cellular & Organelle Segregation in a Multi-cellular Individual (Plant)



Cyanobacteria (*Anabaena Spp*)

Single Cell Segregation between Single-Cellular Individuals





4: What are some of the new Rules?



An Economy *can* have a goal - *Telos*

One of Aristotle's concepts of value was based around the concept of '*Telos*,' which attempts to:

“...identify the norms appropriate to social practices by trying to grasp the characteristic end, or purpose, of those practices.”
(Sandel, 2010)

And so *Telos* (from the Greek τέλος for "end", "purpose", or "goal") is the concept that things should and do have purpose. In this way, one can ask, what is the purpose of economics – or a business?





(Ecological) Management can replace Economies of Scale



Stacking Functions

Holistic Management, and Regenerative Agricultural Design

Direct Sales



Cheap, portable Infrastructure



Renting Farm Land



Economies of Scale

Temporary/polyvalent structures



Solar Electric Fence



Cool Bot





Thank you for your attention