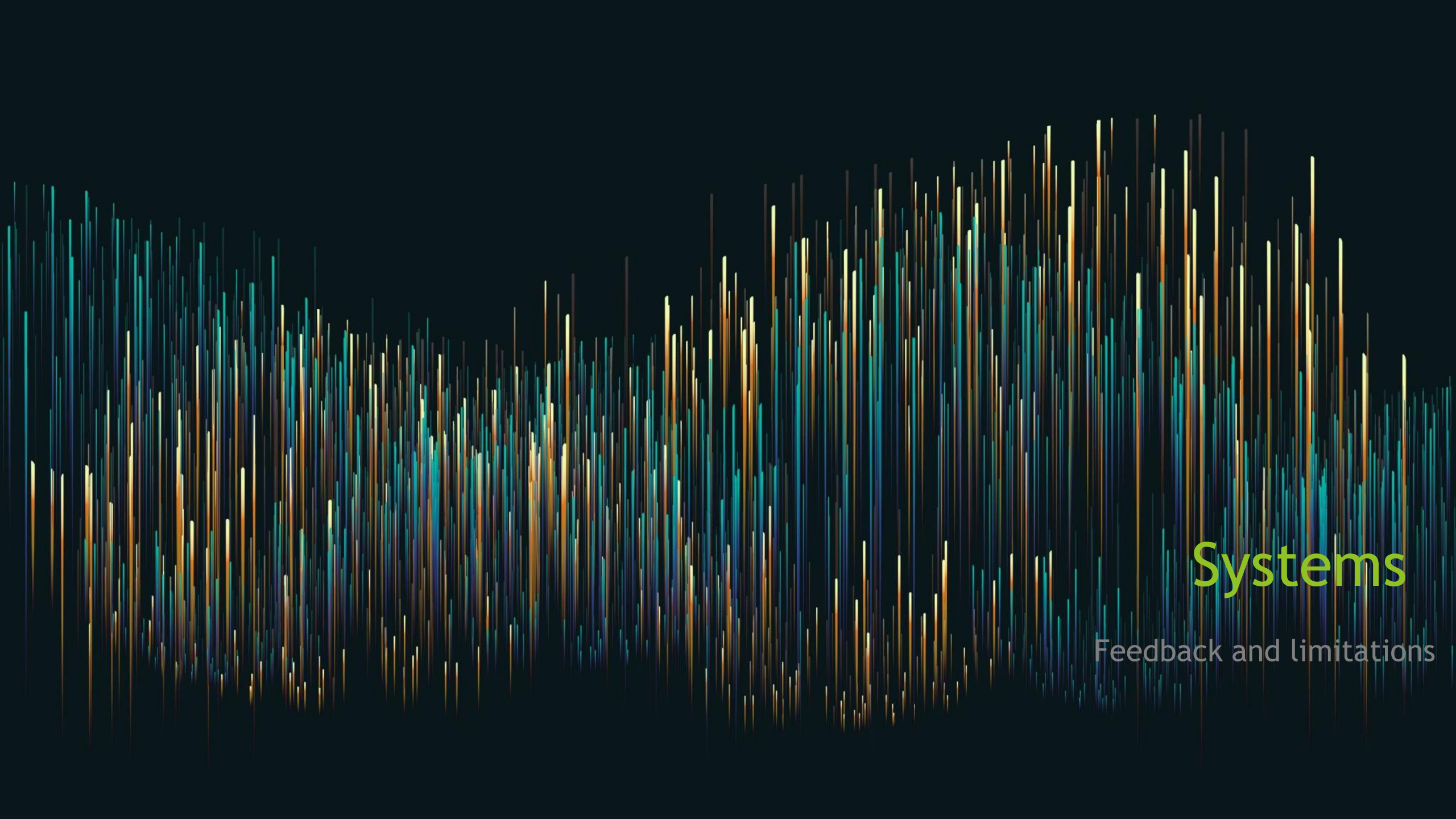
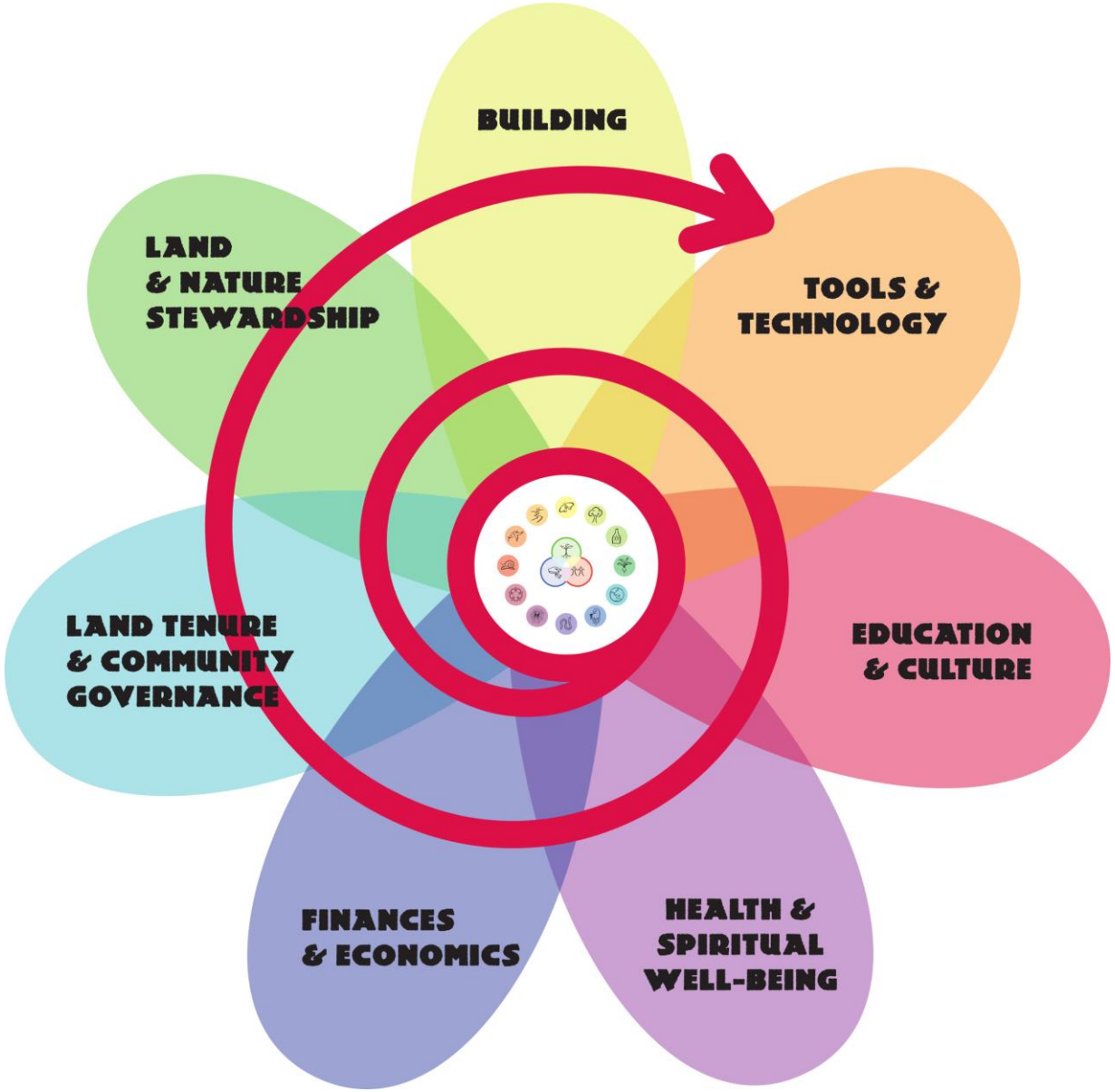


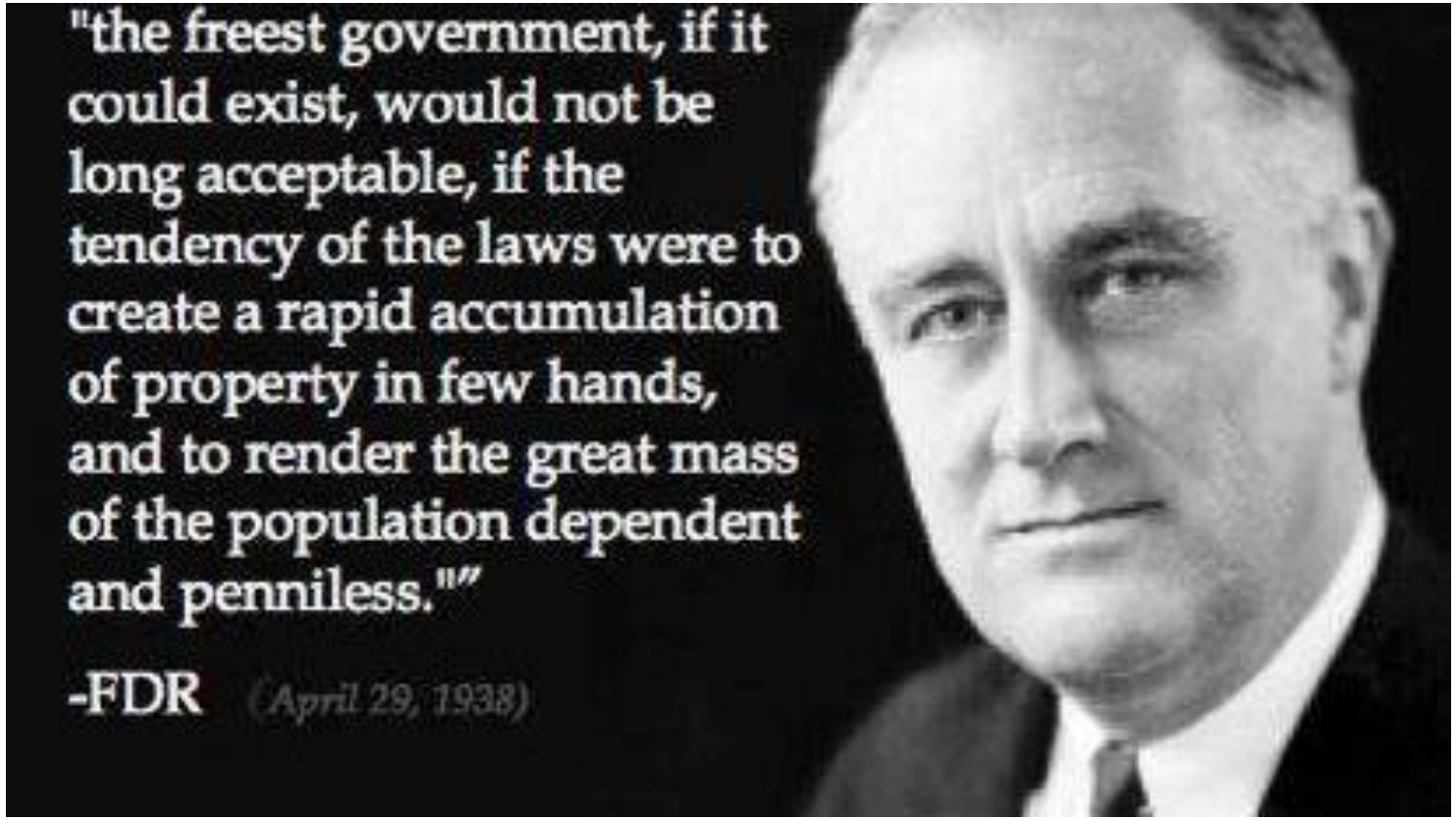
Systems

Feedback and limitations


"YOU NEVER CHANGE THINGS BY FIGHTING THE EXISTING REALITY. TO CHANGE SOMETHING, BUILD A NEW MODEL THAT MAKES THE EXISTING MODEL OBSOLETE."
- BUCKMINSTER FULLER

The foot of a mosquito

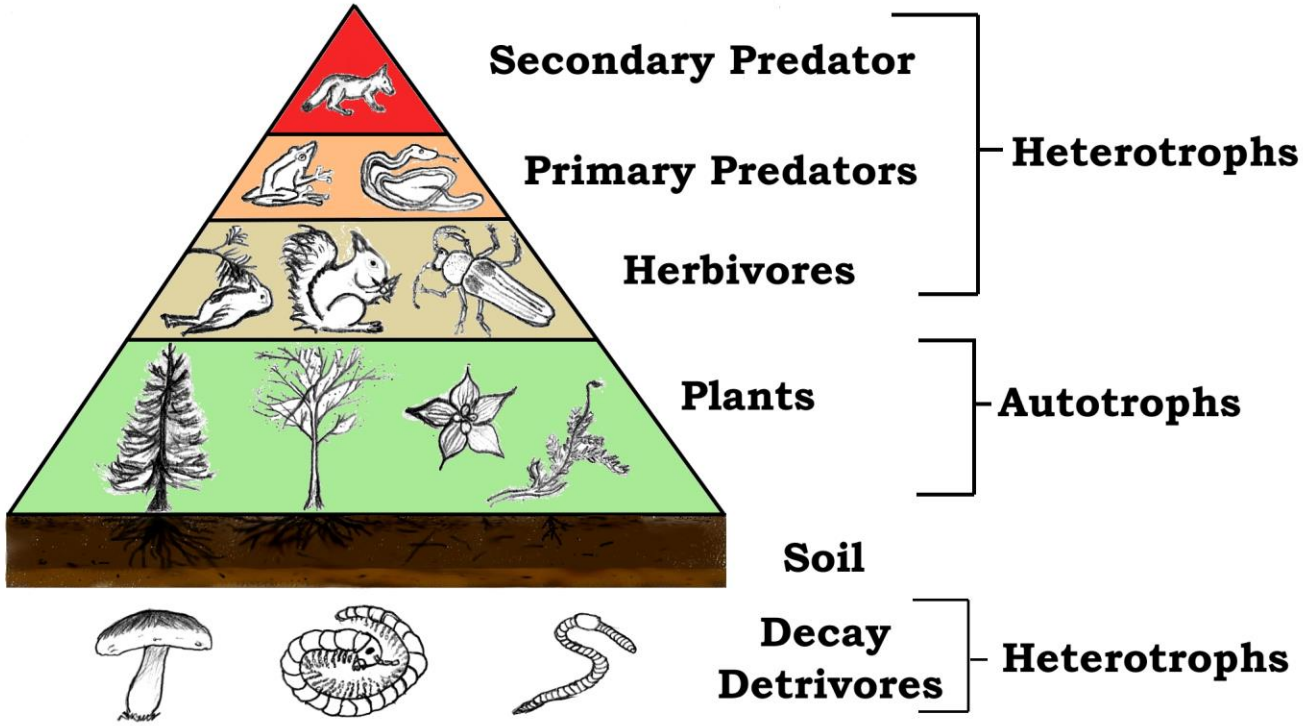

BUILDING
TOOLS & TECHNOLOGY
EDUCATION & CULTURE
HEALTH & SPIRITUAL WELL-BEING
FINANCES & ECONOMICS
LAND TENURE & COMMUNITY GOVERNANCE
LAND & NATURE STEWARDSHIP


"the freest government, if it could exist, would not be long acceptable, if the tendency of the laws were to create a rapid accumulation of property in few hands, and to render the great mass of the population dependent and penniless."
-FDR (April 29, 1938)

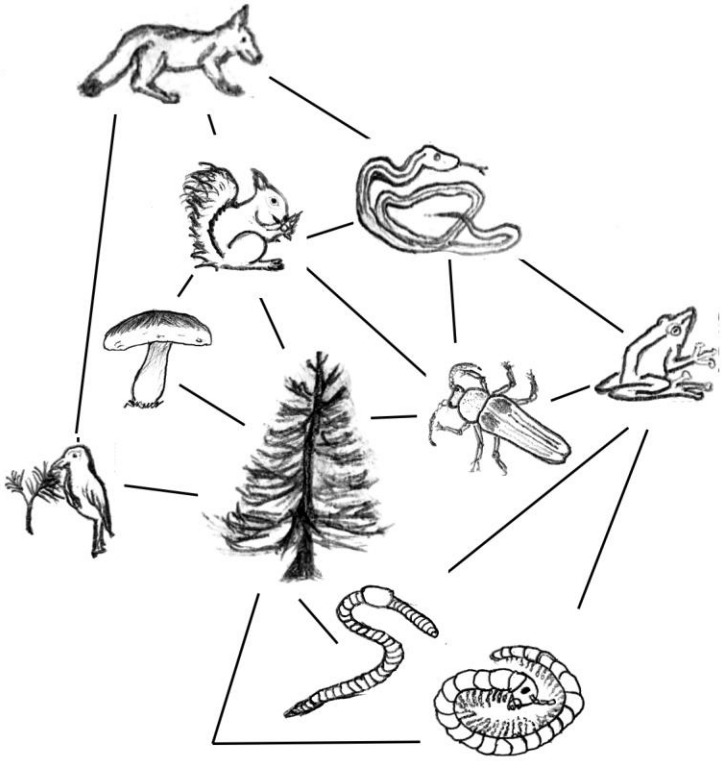
Numbers:

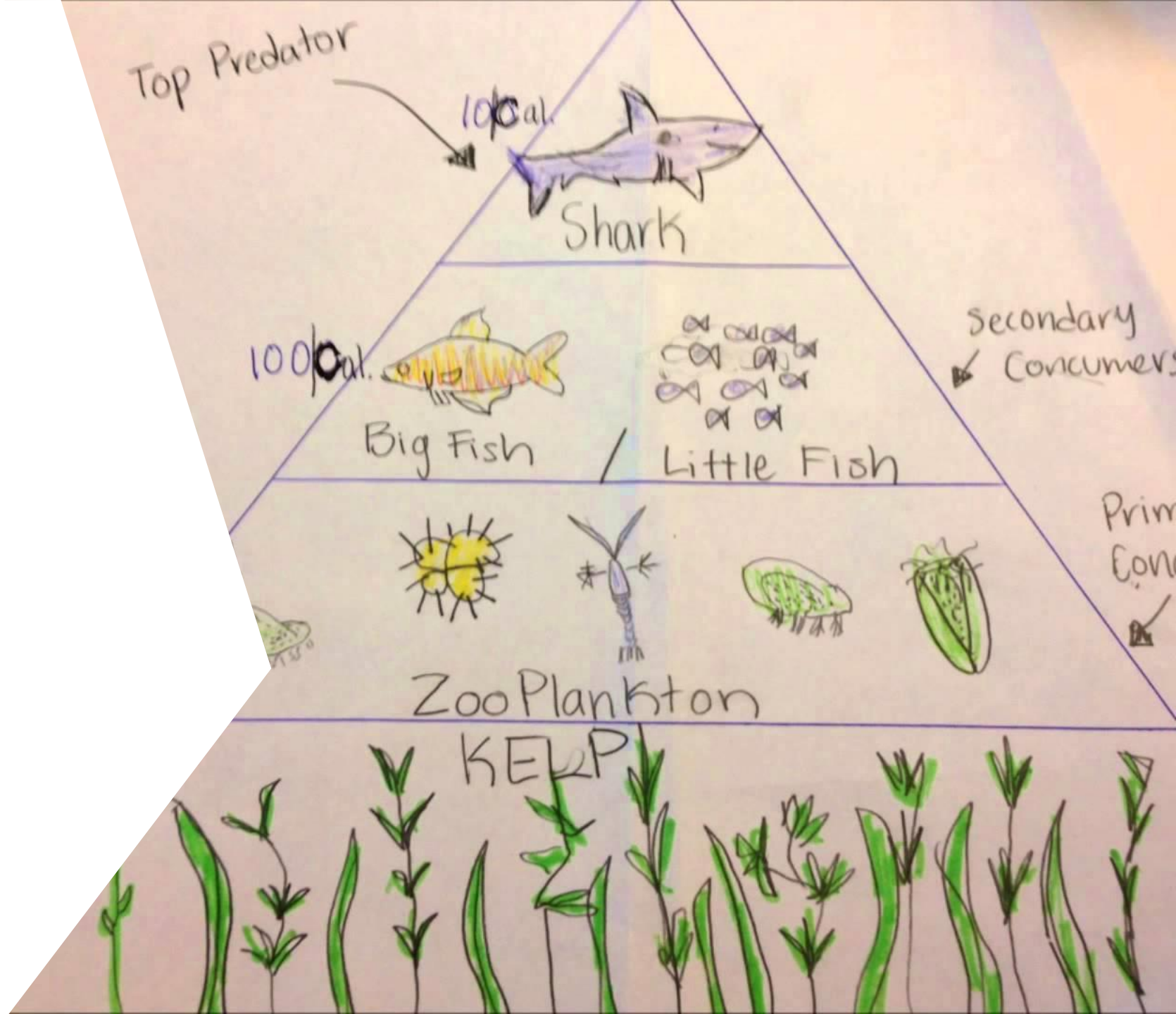
Shows the relative number of individual organisms at each trophic level.

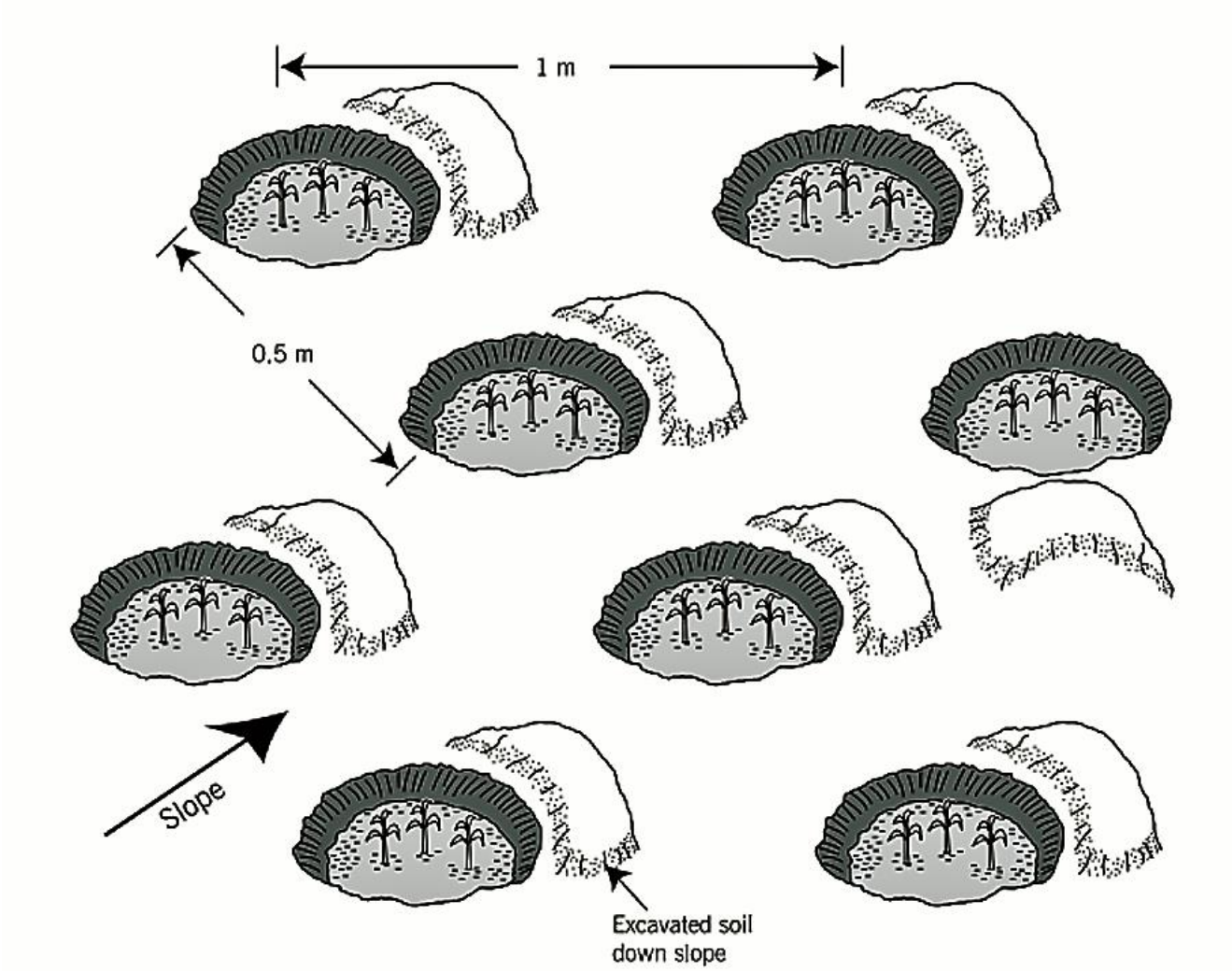
a.

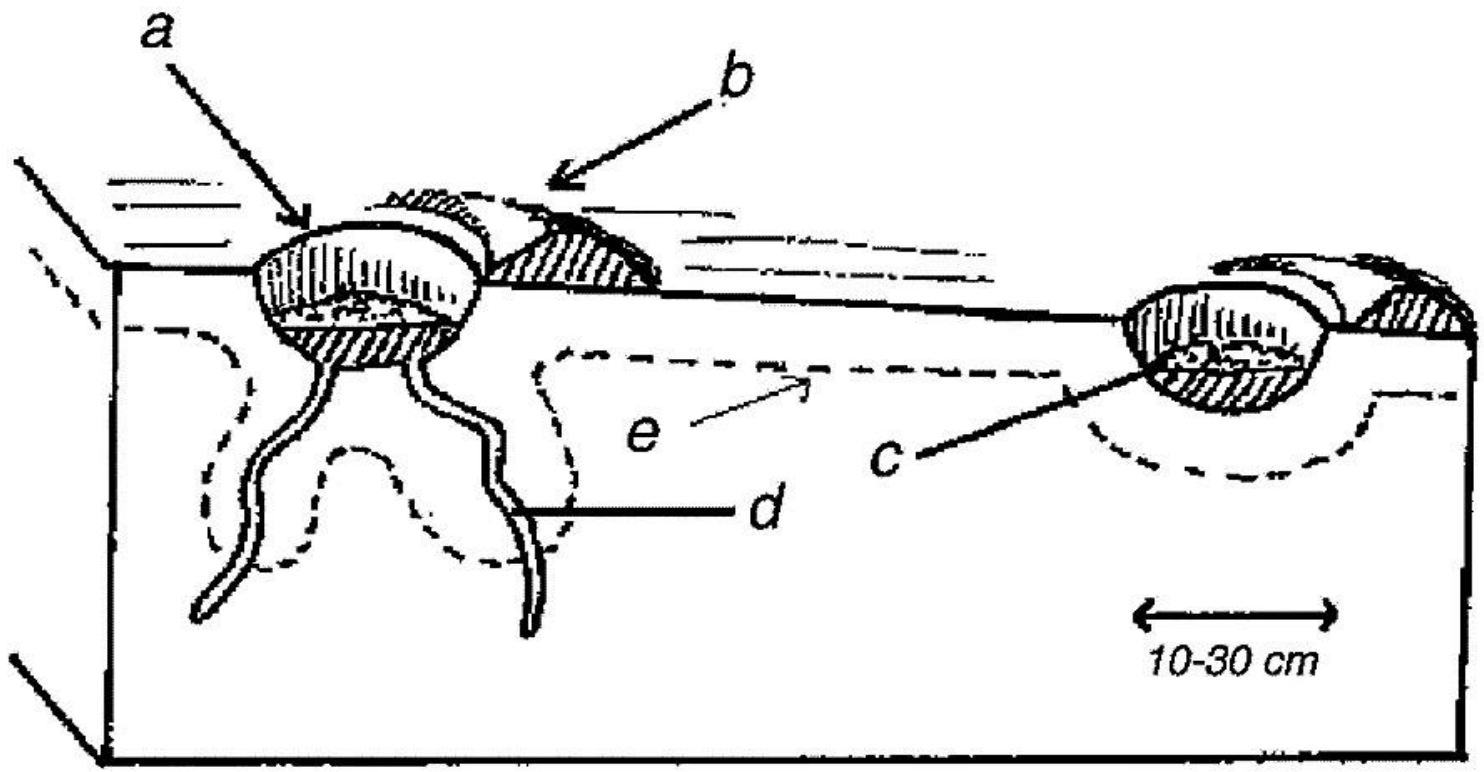

Secondary Predator
Primary Predators
Herbivores
Heterotrophs
Plants
Autotrophs
Soil
Decay
Detrivores
Heterotrophs

b.




Top Predator
100 Cal.
Shark
100 Cal.
Big Fish
Little Fish
Secondary
Concumers
ZooPlankton
KELP


1 m
0.5 m
Slope
Excavated soil
down slope



a: planting pit
b: earth ridge
c: manure in the pit
d: termite tunnels
e: soil moisture profile

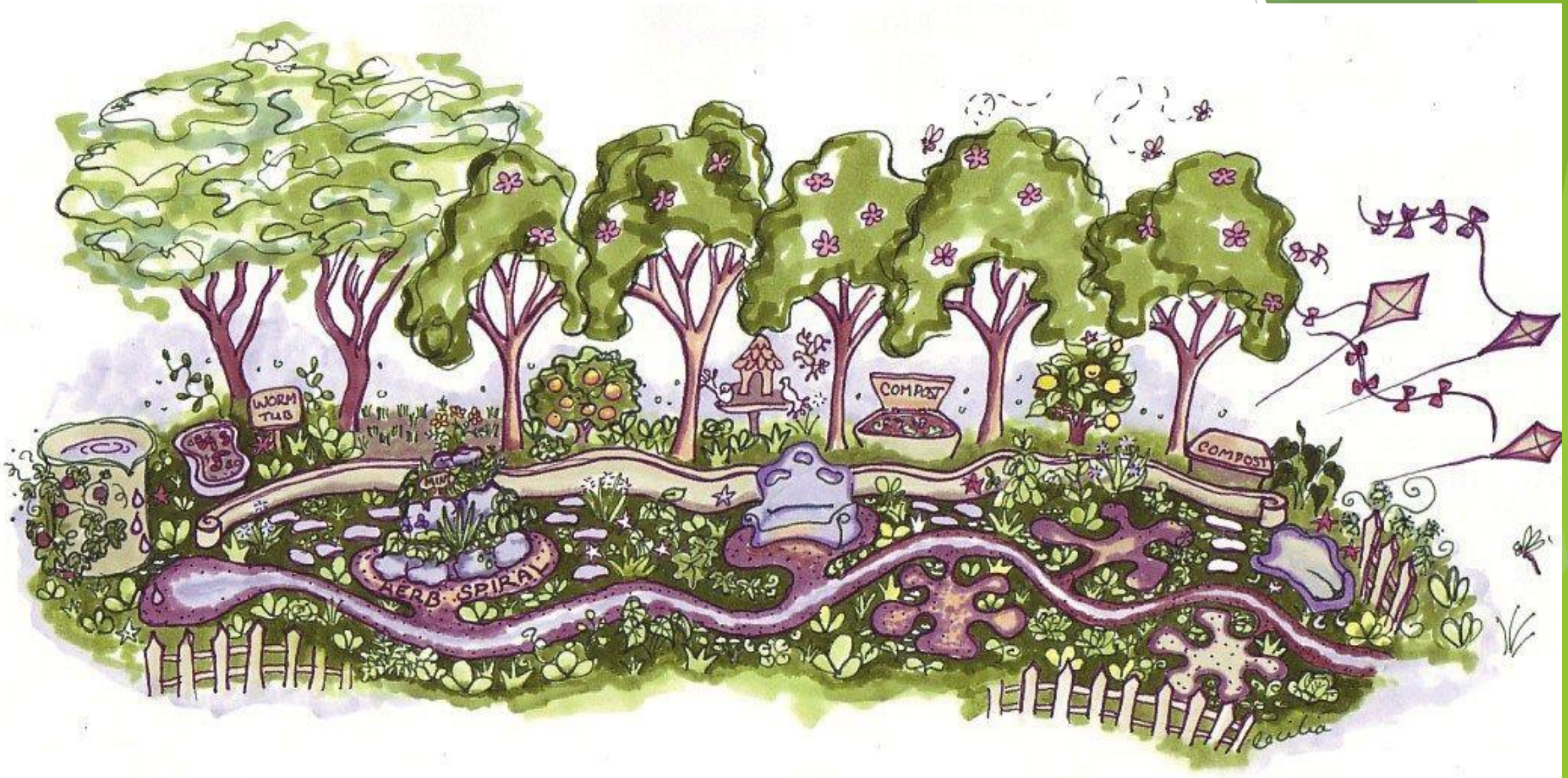
Tephrosia Vogelli

- Fast growing
- Nitrogen fixing
- Landscape regeneration
- Edible seeds
- Soil shading
- Soil building

Leucaena species

- Leucaena species are grown for their variety of uses, including as green manure, a charcoal source, livestock fodder, and for soil conservation. The seeds (jumbie beans) can be used as beads. Leucaena planted for firewood on an area of 120 km2 (46 sq mi) will yield an energy equivalent of 1 million barrels of oil per year. Anthelmintic medicines are made from extracts of Leucaena seeds in Sumatra, Indonesia.[4]
- Some species (namely Leucaena leucocephala) have edible fruits (as unripe) and seeds. The seeds of Leucaena esculenta (in Mexico called guaje or huaje) are eaten with salt in Mexico. In other species high levels of mimosine may lead to hair loss and infertility in non-ruminants.[4]

Calliandra


WORM TUB
COMPOST
COMPOST
AERB SPIRAL

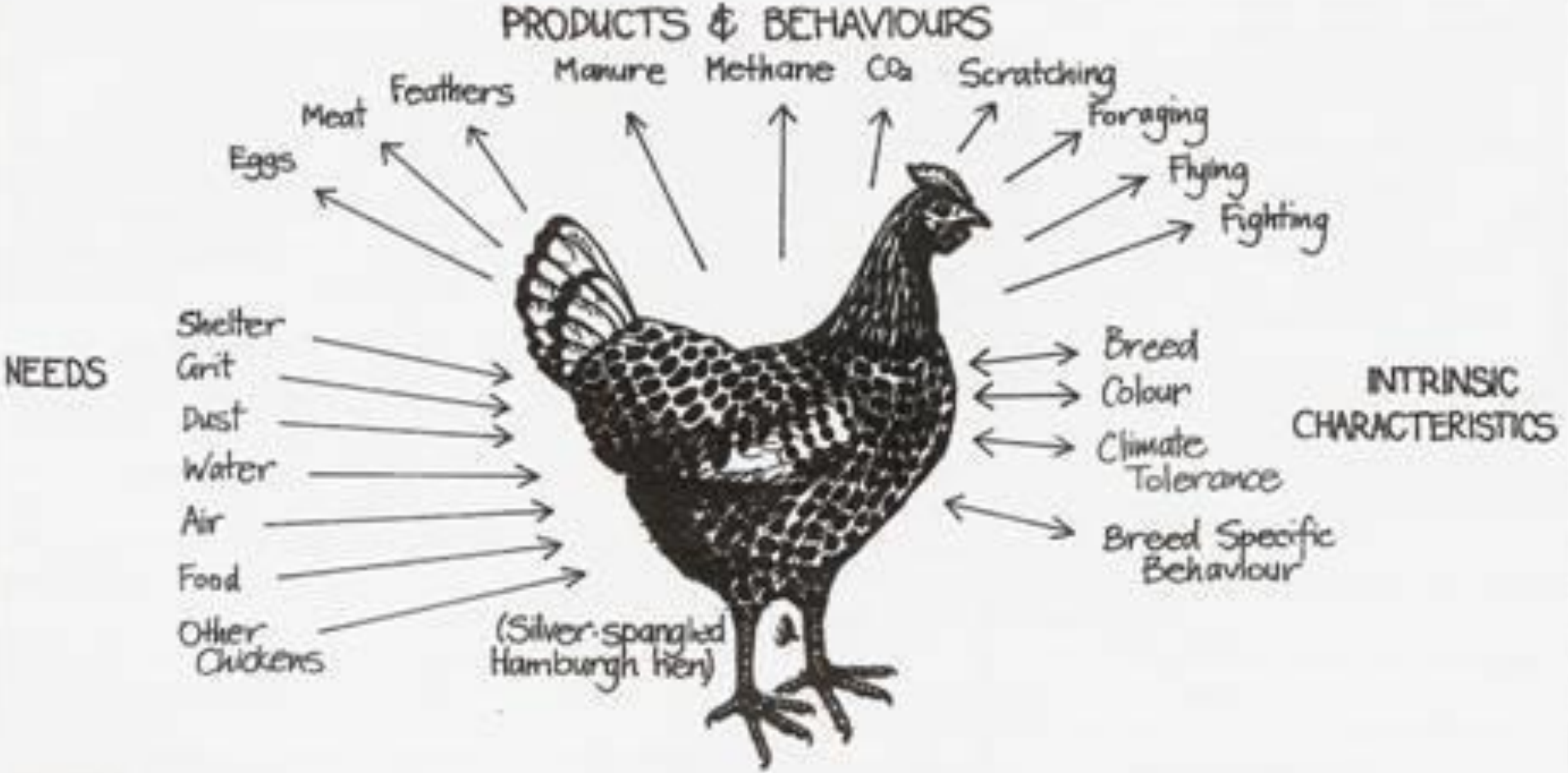
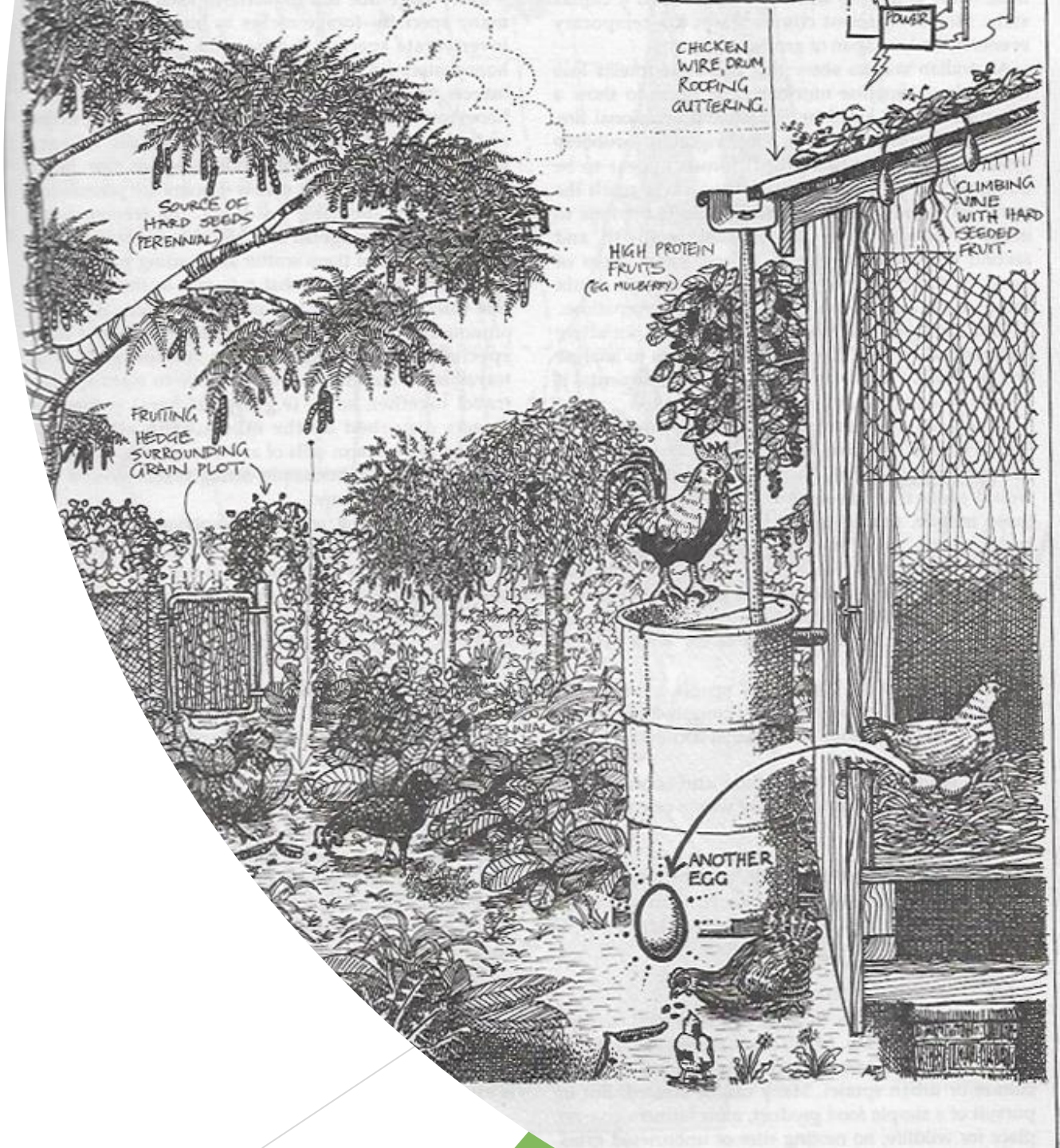


FIGURE 3.1
PRODUCTS AND BEHAVIOURS OF A HEN.
Analysis of these inputs and outputs are critical to self-governing

design. A deficit in inputs creates work, whereas a deficit in output

A Chicken system

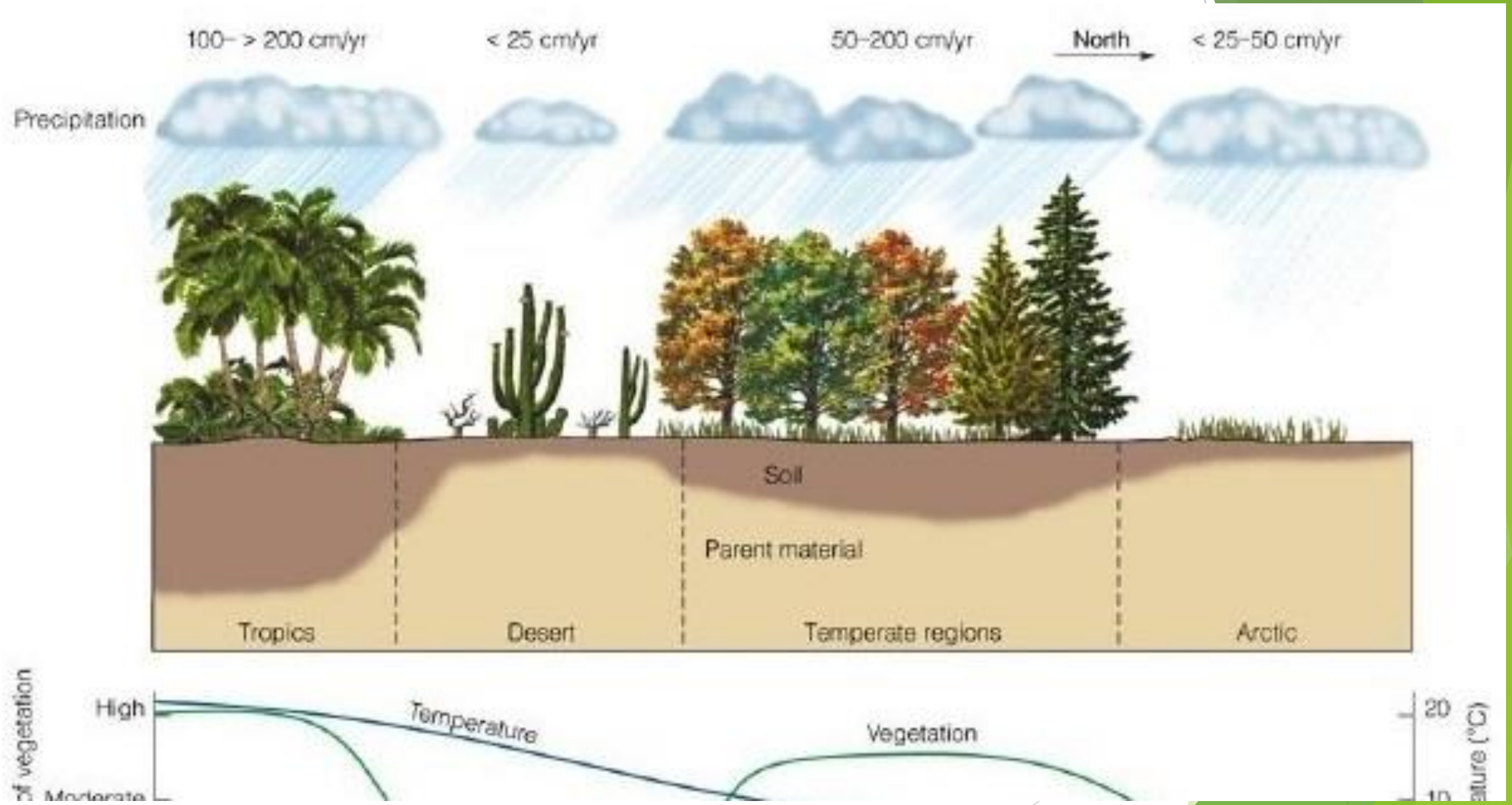


One of the teachers (patrons) with permaculture club kids excavating nutritious soils to be mixed with biochar for planting trees in front of the school compound.

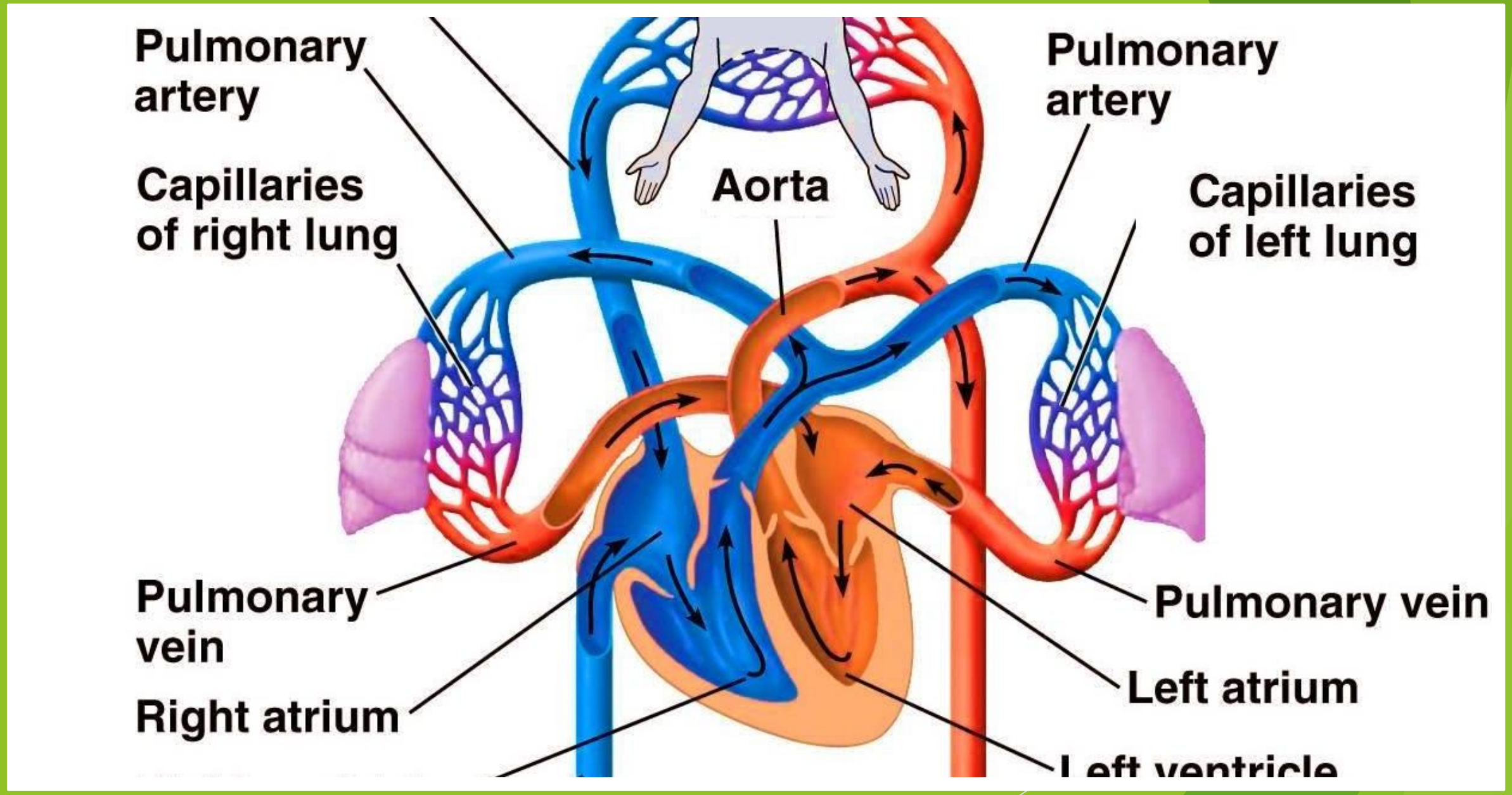
The kids are so passionate about the project.

Permaculture in Practice at Nyero School.
With 35 farmers, 60 primary school children 13 teachers, 16 NGO field staff.
We opened a school permaculture garden where we are planting banana circles and intend to have a food forest for the school. kids are also planting trees all around the school compound. We dug swales, made biochar and planted shade trees as part of a new school food forest.

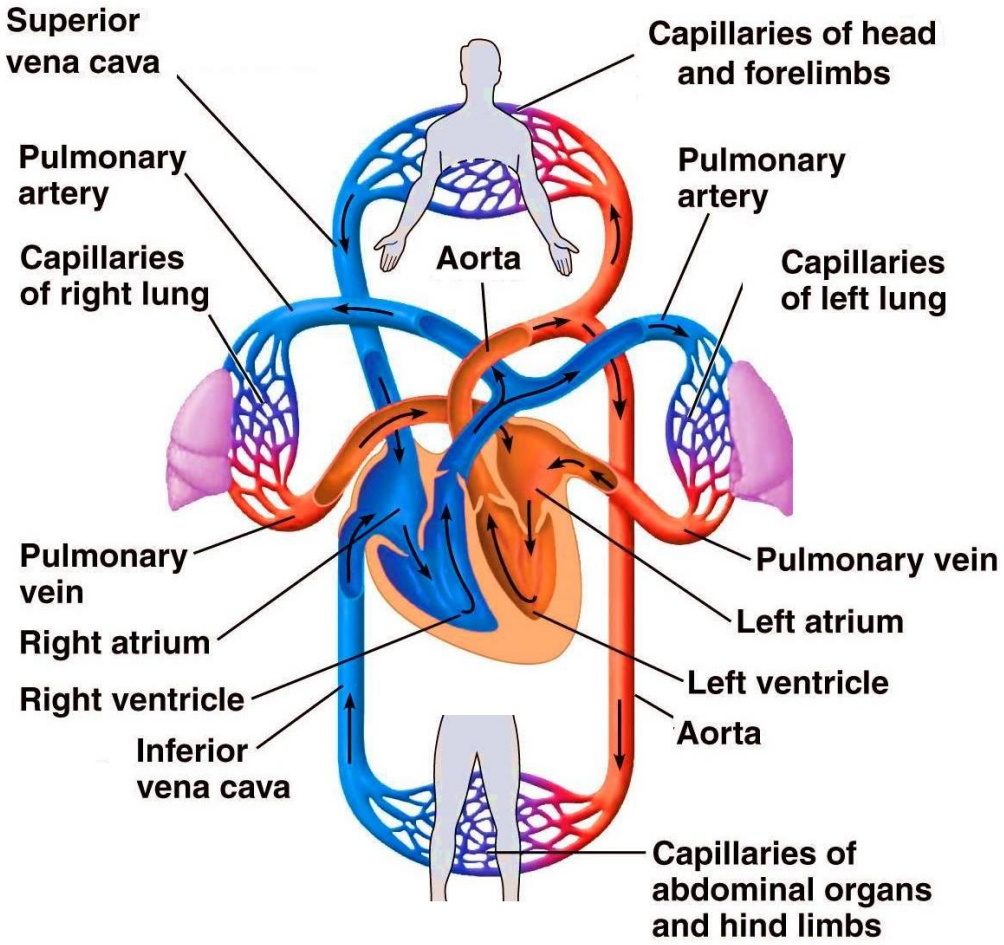
3 sisters:
Maize
Beans
Squash


100– > 200 cm/yr
< 25 cm/yr
50–200 cm/yr
North
< 25–50 cm/yr
Precipitation
Soil
Parent material
Tropics
Desert
Temperate regions
Arctic
High
Temperature
Vegetation
20


BBC


Pulmonary artery
Capillaries of right lung
Aorta
Pulmonary artery
Capillaries of left lung
Pulmonary vein
Right atrium
Pulmonary vein
Left atrium
Left ventricle

Circulatory System



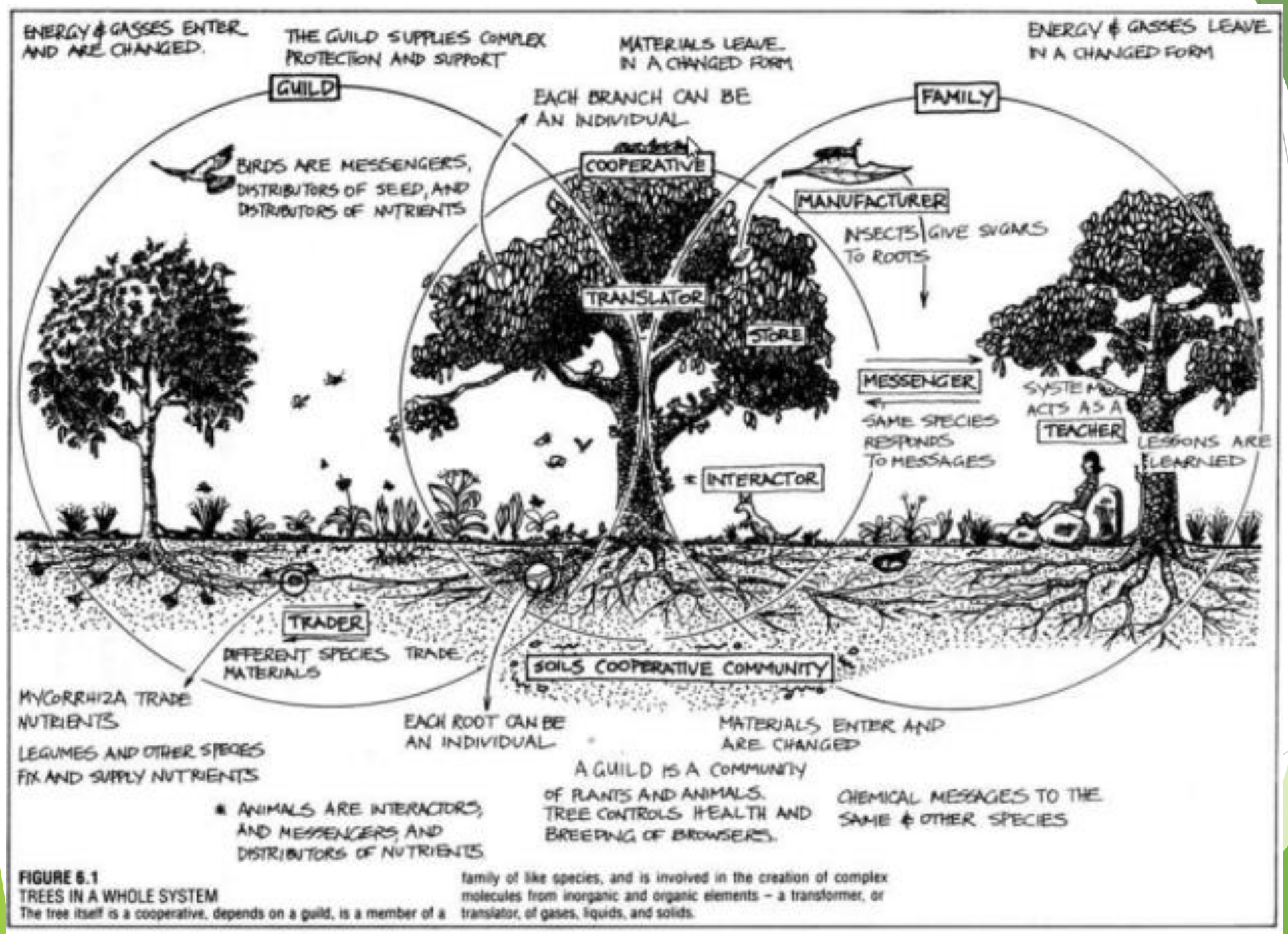
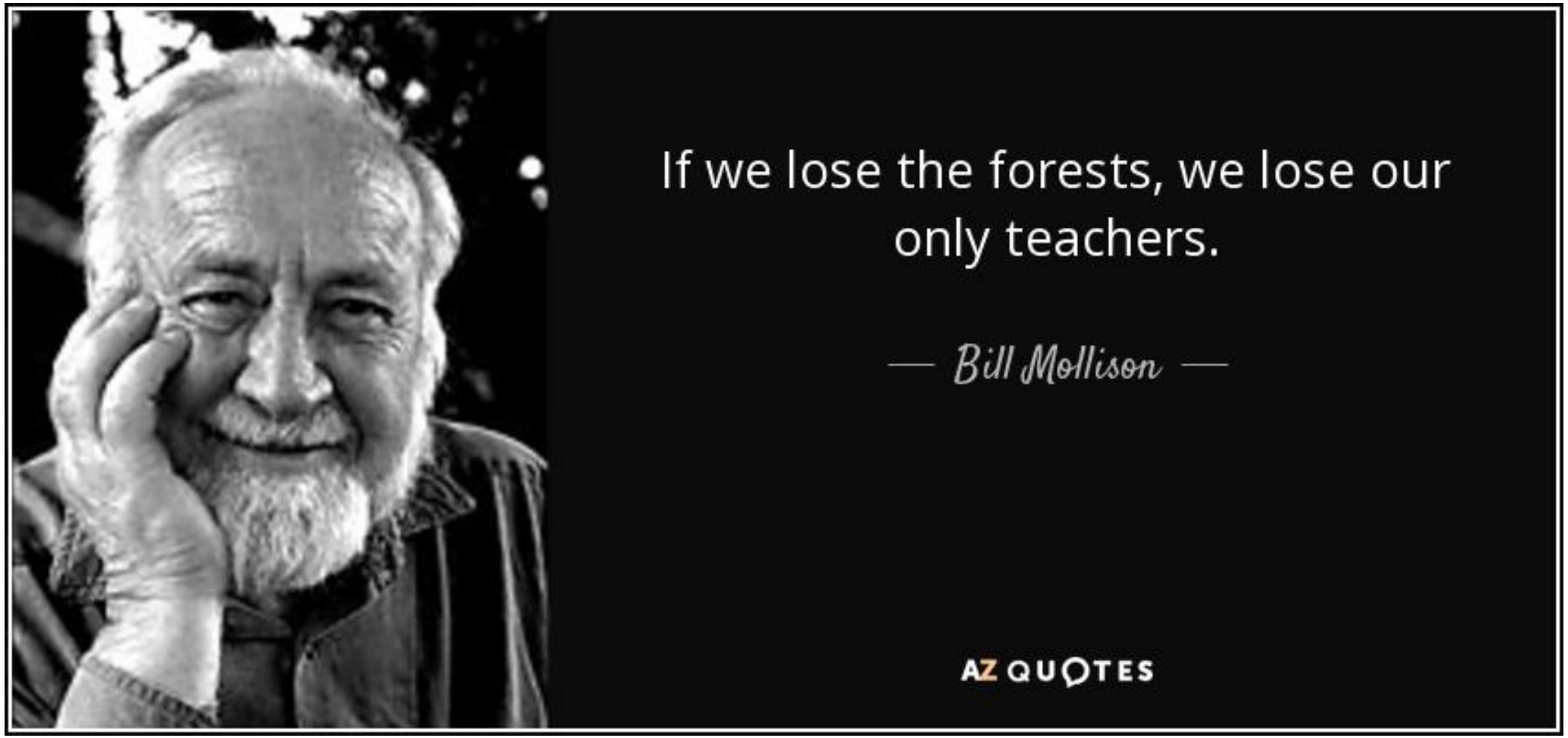


FIGURE 6.1
TREES IN A WHOLE SYSTEM
The tree itself is a cooperative, depends on a guild, is a member of a family of like species, and is involved in the creation of complex molecules from inorganic and organic elements – a transformer, or translator, of gases, liquids, and solids.


If we lose the forests, we lose our only teachers.
— Bill Mollison —
AZ QUOTES