

# Settling Down...

# And Building Up



# NATURAL?

What is a species?

-Species closest to Homo sapiens have the most variability within species:

-Dogs

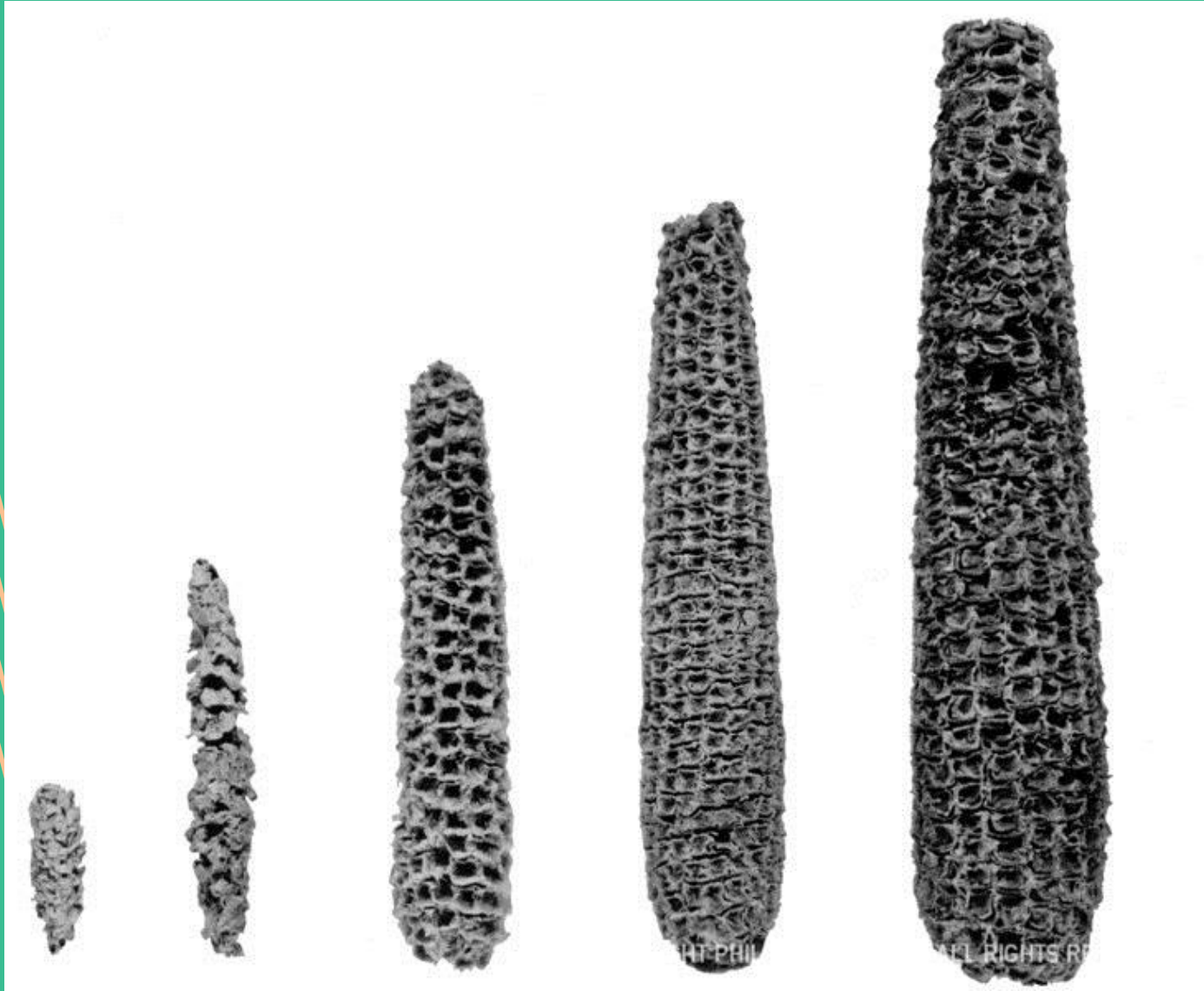
-Cows

**-Corn**

**-Tomatoes**

A wide spectrum of differences leads to health of a species (wide gene pool).

# NATURAL?



**S A V A G E**

**BARBARIC**

*Civilized*

**S A V A G E**

**B A R B A R I C**

*Civilization*



**Paleolithic**

**Stone tools, fire,  
artwork**

**Mesolithic**

**More diverse diet,  
more sedentary  
settlement**

**NEOLITHIC**

**Agriculture,  
domestication,  
sedentary living,  
hierarchical  
societies**

**IS THE NEOLITHIC**

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**A REVOLUTION?**

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# **IS THE NEOLITHIC A REVOLUTION?**

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Culmination of progressive change in the economic structure and social organization of communities that caused drastic rise in population.



# The Neolithic

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**"When we divide prehistory or history into periods with beginnings, middles and ends, 'we are talking not about history but about the the labels we choose to stick upon the corpse of history.'" – Ian Hodder**

# The Neolithic

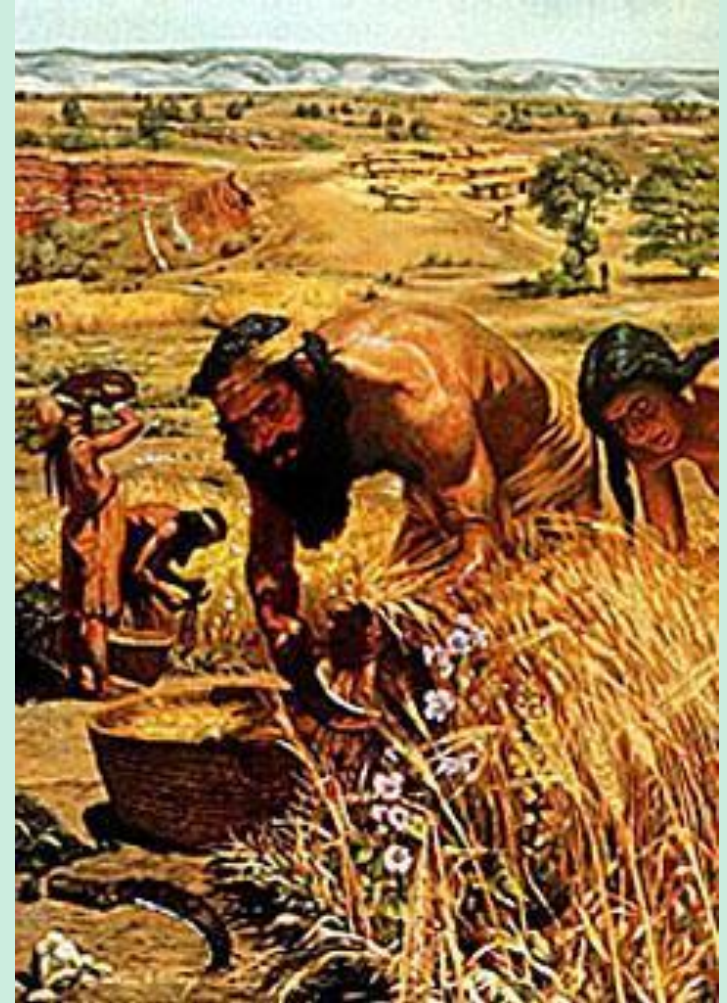
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Just remember these 2 things:

**1.) Humans start farming**

**2.) Humans start living in one place**

# Why Farming?



???

# Why Farming?

200kya

**200,000 years of successful  
Hunting & Gathering...**

**...is replaced at several places  
within a couple thousand years**

10kya

# Why Farming?



**Southwest Asia – approx. 9000BC**

(aka: The Fertile Crescent, The Middle East)

**South America – approx. 8000 BC**

**Mesoamerica – approx. 8000 BC**

**East Asia – 7000 BC**

**Africa – 5000 BC**

**North America – 4000 BC**

**Why after 200,000 years  
do we abandon a  
perfectly good hunting  
and gathering system  
for the toil of  
agriculture?**

**Was it inevitable?**

# **Theoretical Whys**

**Oasis hypothesis**

**Social hypothesis**

**Edge hypothesis**

**Natural habitat hypothesis**

**Population pressure hypothesis**



# **Population Pressure**

- **Lewis Binford, 1960s, proposed the population pressure hypothesis.**
- **Relying on evidence of the successful adaptation of food collecting, Binford argued that human groups would not become farmers unless they had no other choice.**
- **Increasing populations required people to get more food.**
- **The best solution was domestication.**

# Investing in Space



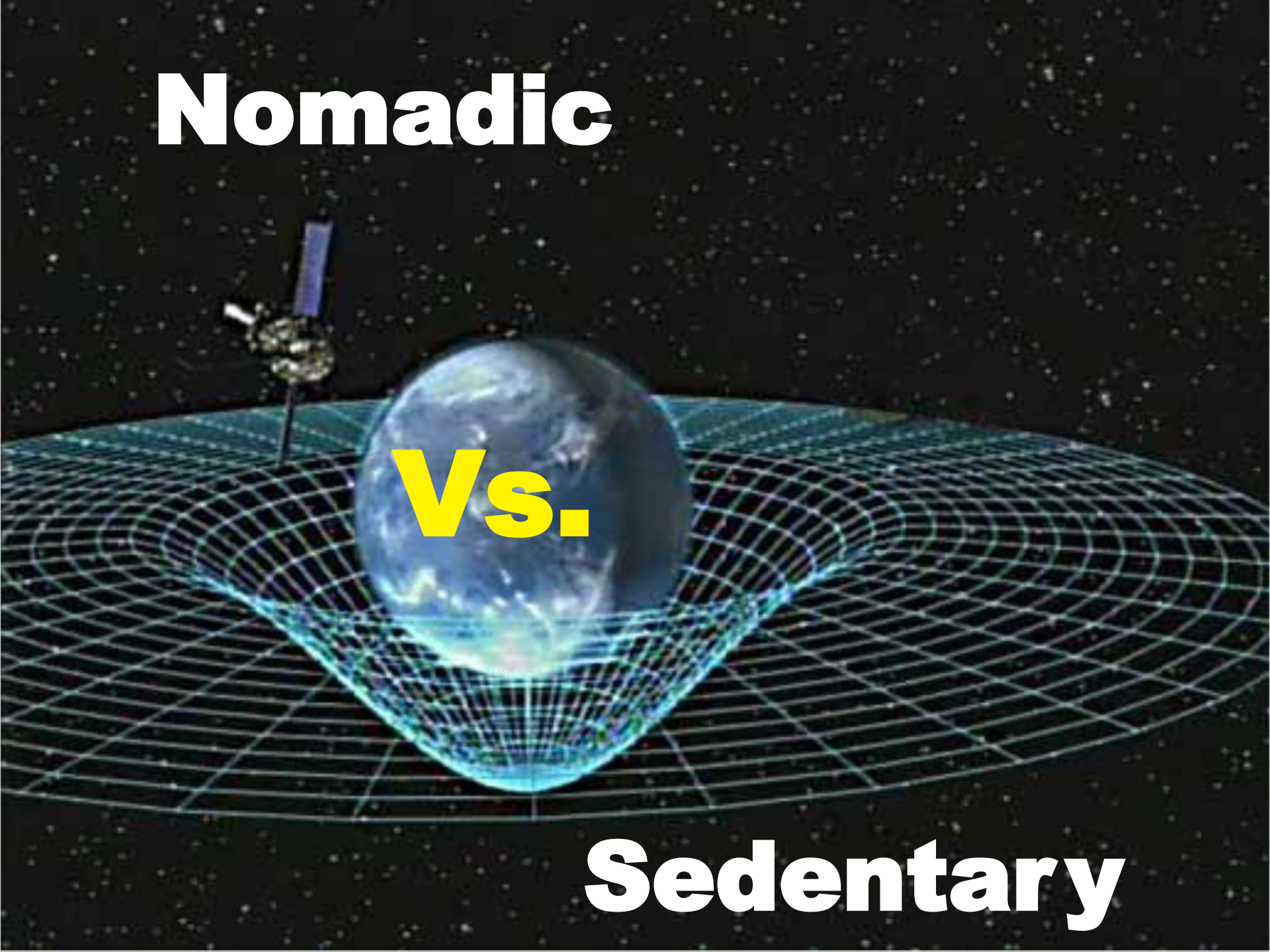
**Vs.**

# Investing in Time

**Nomadic**

**Vs.**

**Sedentary**



# CYCLES & RESOURCES

An aerial photograph of a prehistoric site, likely a Neolithic or Bronze Age settlement. The site features several large, circular stone walls or enclosures. In the foreground, there are some stone structures and a small group of people. In the background, a large group of people is gathered near a body of water, possibly a river or lake. The landscape is hilly and green.

- Did prehistoric hunter-gatherers move in an annual cycle, or move according to preferred resource use?
- Difficult to answer due to the problem of the relationship between the archaeological remains and the actual behavior of prehistoric peoples.
- How do we connect static material objects with dynamic human activities?

# PATH TO AGRICULTURE?

**Sedentism**



**Plant Cultivation**



**Animal domestication**

# PATH TO AGRICULTURE

Seder

on

domestication

**YES, for Southwest Asia!**  
**But not for everywhere else...**

# PATH TO AGRICULTURE?

**MESOAMERICA:**

**Plant cultivation**

|

**Pottery**

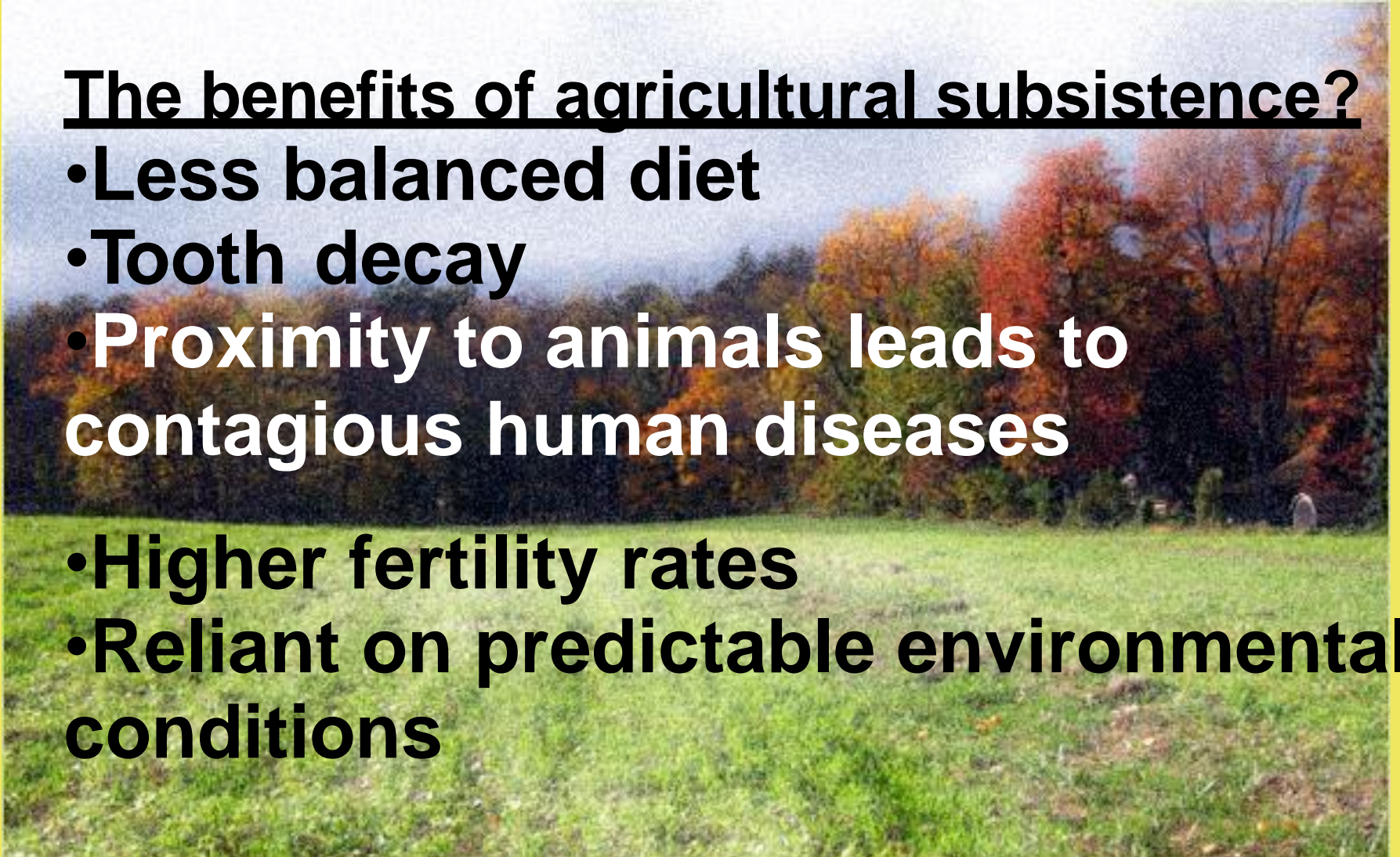
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**Sedentism**

# Inevitable?

## The benefits of agricultural subsistence?

- Less balanced diet
- Tooth decay
- Proximity to animals leads to contagious human diseases
- Higher fertility rates
- Reliant on predictable environmental conditions





# Inevitable?

The benefits of agricultural subsistence?

- Less balanced diet
- Tooth decay
- Proximal to infectious diseases
- Higher fertility rates
- Reliant on predictable environmental conditions

**Not so hot?**

# Inevitable?

REAL Benefit:

**E f f i c i e n c y**



# Inevitable?

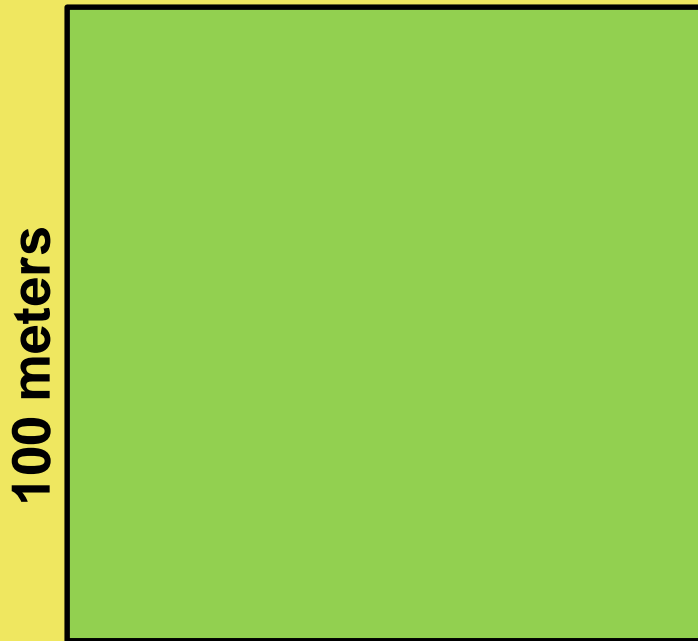
REAL Benefit:

**E f f i c i e n c y**

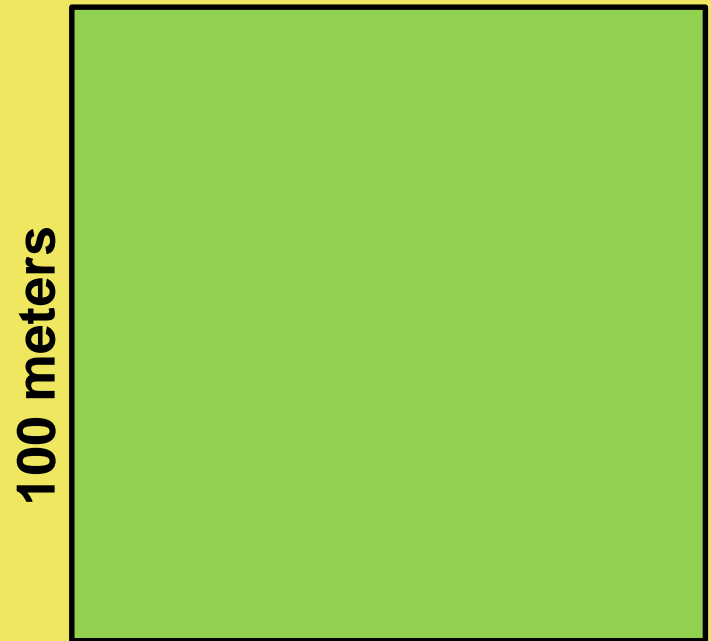
**Specialized Division of Labor**



# InE f f i c i e n c y



100 meters  
Hunted /  
Gathered =  
5,000 calories



100 meters  
Farmed =  
100,000  
calories

# MIDDLE EAST



- The area is about the size of the contiguous United States.
- The Fertile Crescent is bounded by the Zagros Mountains of western Iran, the Taurus Mountains of southern Turkey, and the highlands of the Levant along the eastern Mediterranean shore.
- Between 8000 and 9000 B.C., changes in the size, shape, and structure of several cereals indicate that they had been domesticated.
- The earliest known domesticated cereal, rye, has been dated to 10,000 B.C.



ASSUR  
MESOPOTAMIA  
AS SYRIA

ZAGROS MOUNTAINS

BABYLONIA

Khafaje

Agade  
Babylon  
Kish

Tigris River

Nippur

Isin

Umma

SUMER

Lagash

Euphrates River

Uruk

Larsa

Ur

Endu

ELAM

Susa



*Pusrm,  
Ct1K*

# MIDDLE EAST

A historical painting depicting a Middle Eastern landscape. In the foreground, a large group of people, some on horseback, are gathered in a field. The background shows rolling hills and a distant city or settlement. The overall scene suggests a significant event or a large gathering in a rural or semi-rural setting.

**WHEAT**

**PIGS**

**BARLEY**

**GOATS**


**RYE**

**SHEEP**



# Çatalhöyük

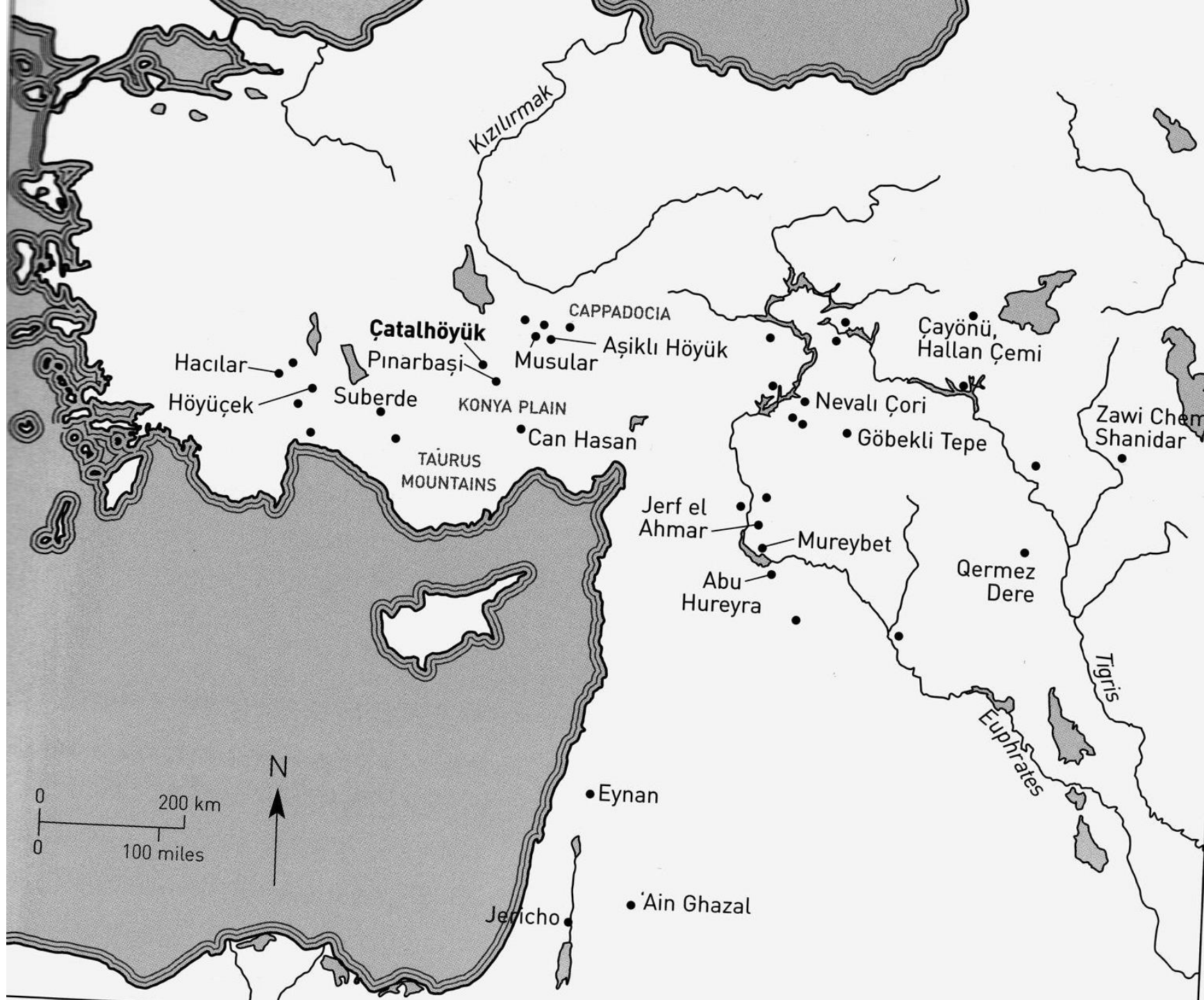


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- Large communities began to appear shortly after the domestication of plants and animals in Southwest Asia.
  - By 7250 B.C., a “city” had appeared at the site of Çatalhöyük in central Turkey.
  - The tell of Çatalhöyük is huge--1,900 feet long, 1,000 feet wide, and almost 65 feet high.
  - The mound accumulated within a period of a little more than 1,000 years.
  - The site was abandoned around 6000 B.C.
  - The site was a large settlement of perhaps as many as 2,000 families.

# Çatalhöyük

- Houses were built closely together in one, two, or three stories around small courtyards.
- The houses were similar, with rectangular floor plans.
- The houses were divided into a living and a smaller storage area.
- They had no doors and were probably accessed through roofs.
- A number of burials were also found in the houses.
- Two or three generations of a family were often buried under the house floor.

# Çatalhöyük





**Storage  
Capacity**

**&**

**Surplus**



# Pottery

- Ceramics are the most common kind of artifact found at most post-Paleolithic sites.
- Pottery vessels are fragile and often have to be replaced.
- Pottery fragments, or potsherds, are very durable and normally preserve better than many other ancient materials.



# Pottery

- Ceramic artifacts can be good indicators of specific time periods.
- Pottery vessels have distinctive technical, formal, and decorative attributes that can tell us about the people that used them.
- The earliest pottery vessels are 10,000–12,000 years old.



# Pottery

- The increasing importance of pottery has in many cases roughly coincided with the greater reliance on domesticated foods.
- The late advent of pottery is curious because ceramic technology had been used by human societies for some time.
- Only with agriculture did we need a method of storage?

# ***RITUAL TIME***

- Human time (felt) vs. abstract time (measured)
- Ritual evokes the eternal... timeless natural order
- Ritual often lasts longer than political regimes
- Performative vs. Prescriptive societies?
- Ritual can often outlast its original intention
- Ritual emphasizes continuity at the expense of innovation (from paganism to Catholicism)



# MEGALITHIC ARCHITECTURE



Rings of Brodgar, Scotland

# MEGALITHIC ARCHITECTURE



Maeshowe, Scotland

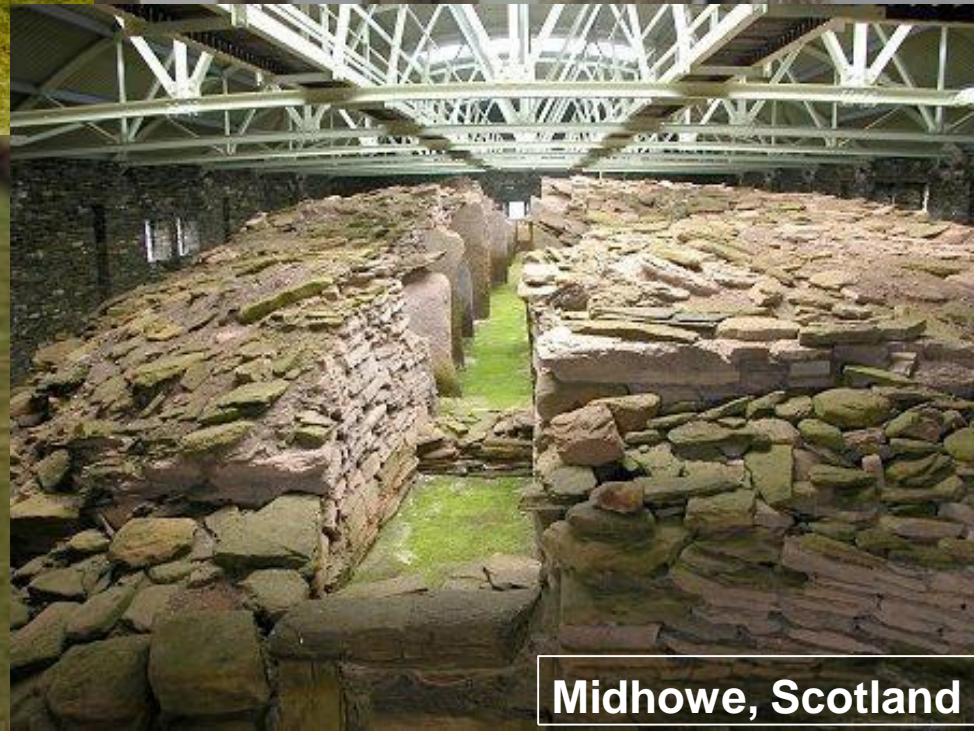


Rings of Brodgar, Scotland





Skara Brae, Scotland



Midhowe, Scotland

# MEGALITHIC ARCHITECTURE



Carnac, France

# MEGALITHIC ARCHITECTURE



Newgrange, Ireland



Stonehenge, England

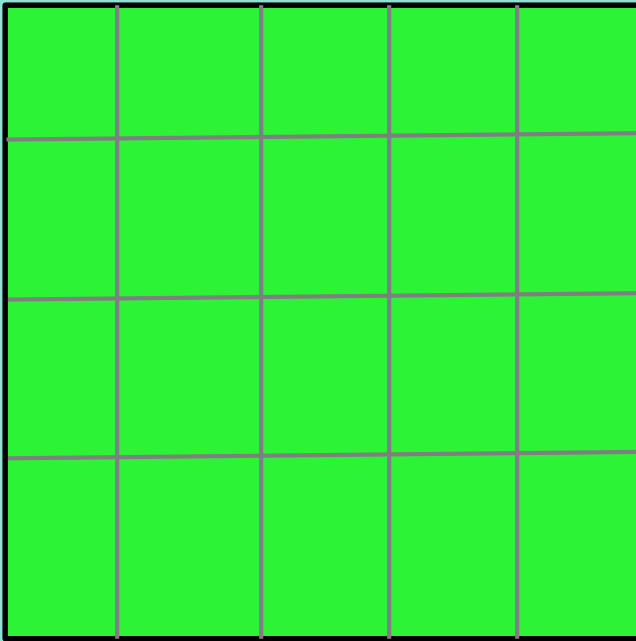


A photograph of an archaeological excavation site. In the foreground, a wooden walkway with a metal handrail runs along the edge of a deep, earthen trench. The trench walls are composed of reddish-brown soil and some stone masonry. In the background, there are more wooden structures and a person walking on a higher level. The sky is bright with scattered white clouds. A large purple rectangular box is overlaid on the center of the image, containing the text "Programming The Landscape" in white, bold, sans-serif font.

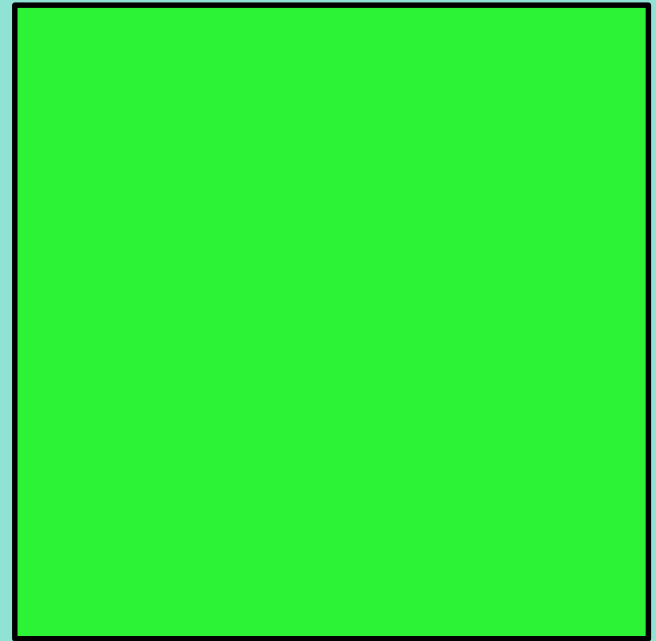
# Programming The Landscape



# Programming The Landscape



**Farming**  
**Sedentary**

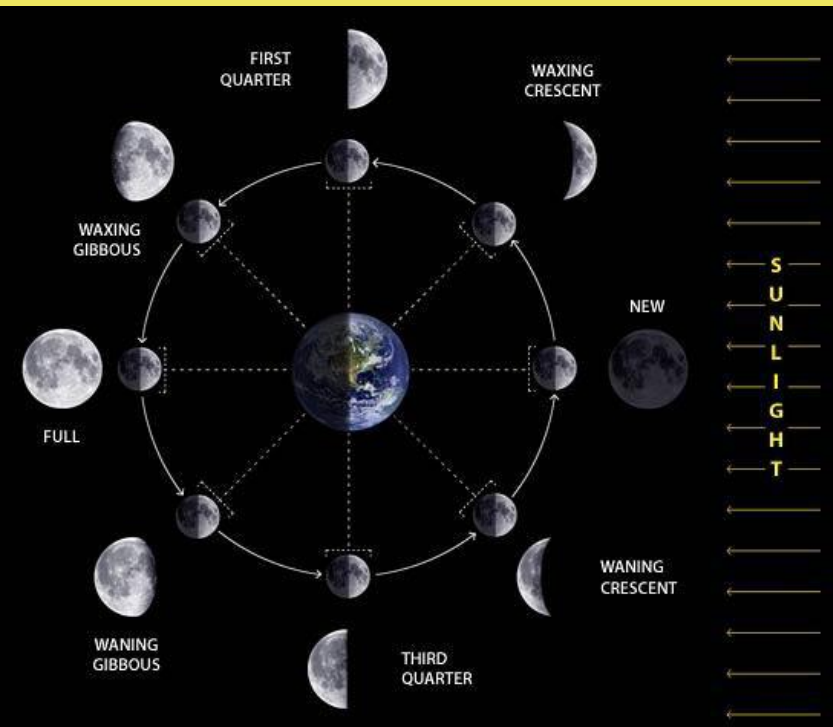


**Hunting-Gathering**  
**Nomadic**

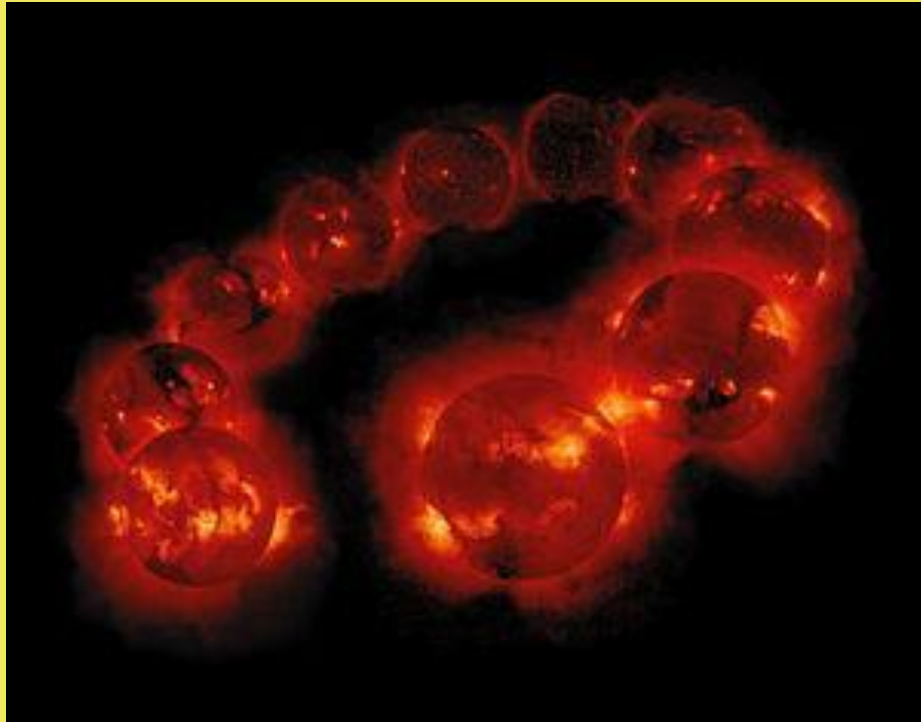
# Time Reckoning



# Time Reckoning



# Time Reckoning



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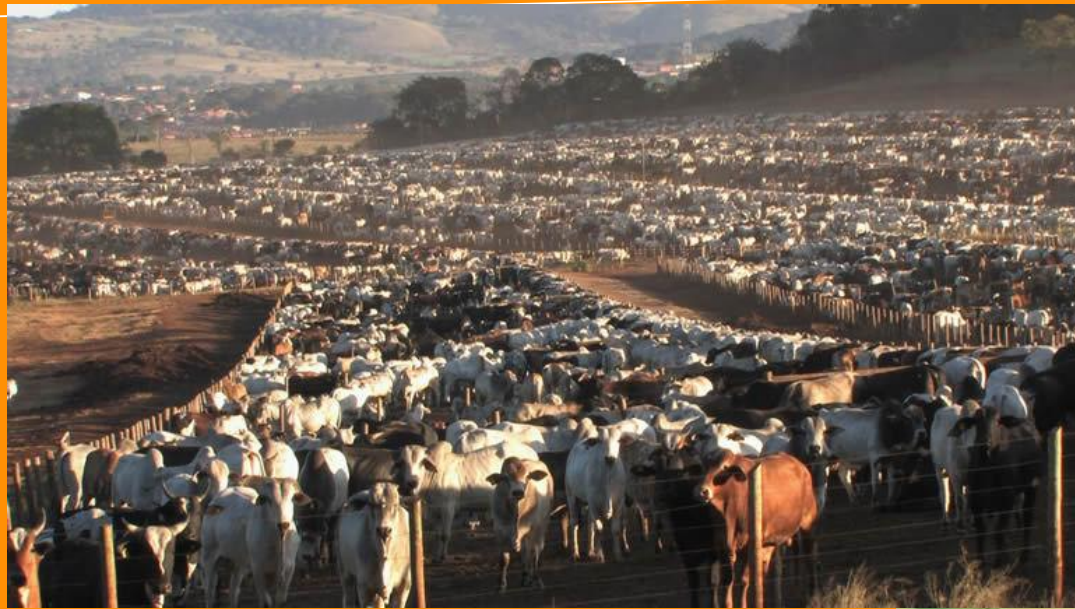


# Time Reck

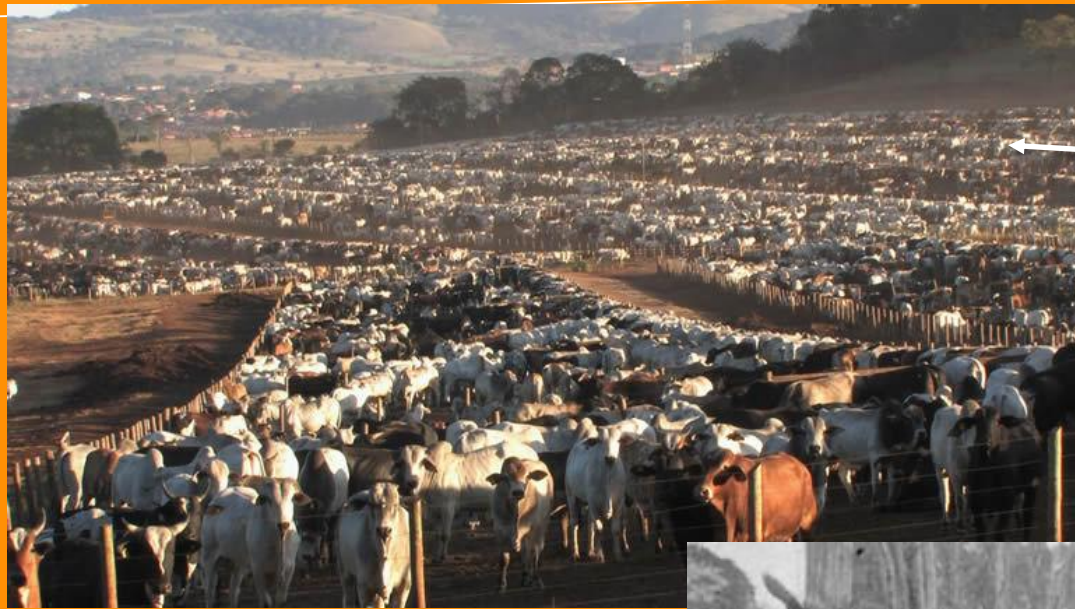
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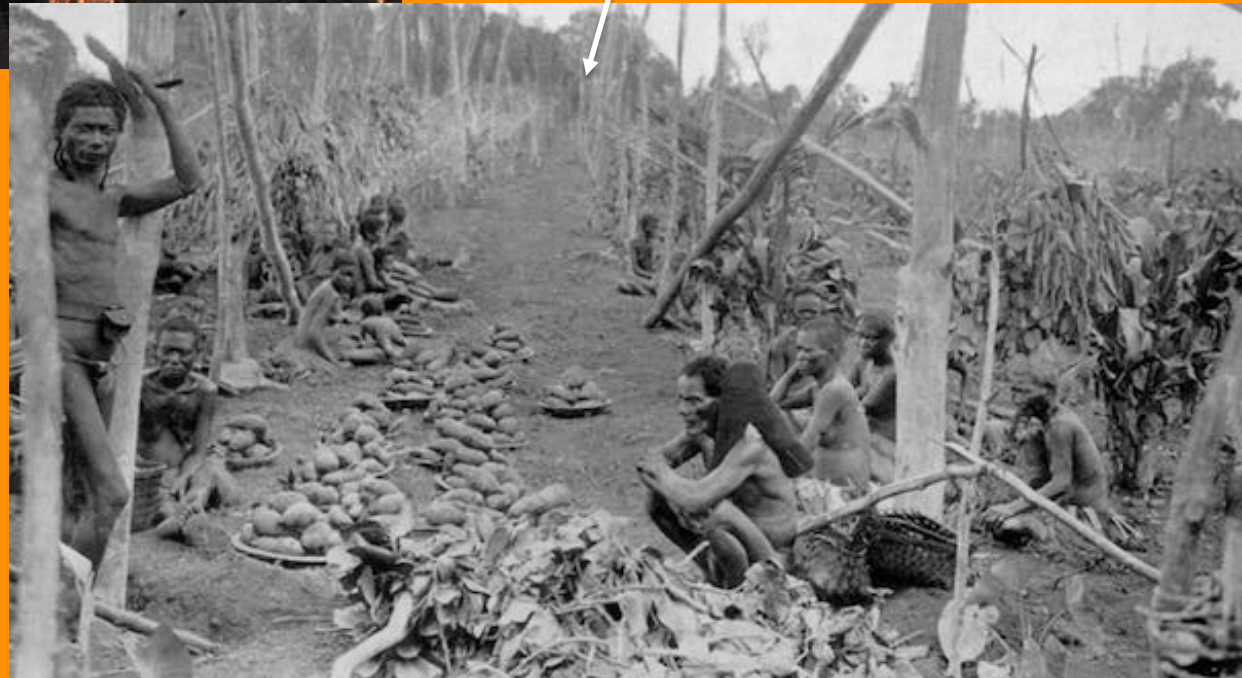
# Agriculture Today...



# Agriculture Today...



**This is not  
the same as  
this**





# Agriculture Today...

**U.S. agriculture is a \$470 billion industry.**

**Food is more valuable as a commodity than for the caloric nutrients it provides to keep us alive.**

**Food is an internationally speculated upon and traded commodity, like oil or gold.**

**Green Revolution:  
1930s to 1960s, great  
amounts of research  
invested in agricultural  
production increase... new  
fertilizers, pesticides, and  
seeds.**



# Agriculture Today...

“Unsustainable agriculture is commonly traced to a period of farming development in the late twentieth century termed ‘productivism’ or the ‘second food regime’. The following key process are implicated: modernization of farming practices; incorporation of farm sector into industrialized food supply system for mass markets; and strong state protection.”

*Intensification, concentration, specialization!*

Farmers are under downward external pressures to apply cost reducing and output-increasing technologies... what kinds of fertilizers to use, contracts with food retailers specify the technologies to be used.



# Agriculture Today...

The U.S. provides about \$10.1 billion to subsidize the production of corn.

This means U.S. farmers have an incentive to over produce corn – because it's so cheap they don't actually make money on the corn itself, only the government money.

This excess corn feeds the meat we eat and ends up as corn syrup in our sodas.

Most everything you eat has some trace of corn in it, somewhere along the line.



# Agriculture Today...

The U.S. produces 1.5 billion bushels of corn a year. We use 1 billion bushels to produce ethanol. We use 500 million bushels to produce the production of ethanol.

This means that we produce more corn than we can eat. We produce more corn than we can eat – because it's so cheap to produce. We produce more corn than we can eat – because it's so cheap to produce. We produce more corn than we can eat – because it's so cheap to produce. We produce more corn than we can eat – because it's so cheap to produce.

This excess corn is used to produce ethanol. This excess corn is used to produce ethanol. This excess corn is used to produce ethanol. This excess corn is used to produce ethanol. This excess corn is used to produce ethanol.

Most everything we eat has some trace of corn in it. Most everything we eat has some trace of corn in it. Most everything we eat has some trace of corn in it. Most everything we eat has some trace of corn in it. Most everything we eat has some trace of corn in it.



# Agriculture Today....

**This overproduction of American corn also causes excess to be 'dumped' on the markets of other countries through Free Trade agreements like NAFTA, making it difficult for small farmers in small countries to sustain their farms.**



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But the grains from here are cheaper

There are farmers here

# Agriculture Today....

This overproduction of American corn also causes excess to be 'dumped' on the markets of other countries through Free Trade agreements like NAFTA, making it difficult for small farmers in small countries to sustain their farms.





# Agriculture Today....

The World Bank defines the poverty line as getting by on less than US \$1.25 a day.

1.4 billion people live below this line.

About 1 in 7 people on this planet don't have enough to eat.

This is not because there is not enough food on the planet.

This is not because we don't know how to move food around the planet.

It is because food is a commodity which some cannot afford.

There is not a food problem. There is a poverty problem.

# Agriculture Today....

**We don't make food for its  
caloric and nutritional value.**

**We make food because it is  
profitable!**

# FOOD

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A Very Brief History of Sugar:



SUGAR

SWEET

# FOOD

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## A Very Brief History of Sugar:

1000 A.D. – Virtually no one in Europe or the Middle East has any idea sugar cane is. They are familiar with the taste of sweetness only through honey and some fruits.

1650 A.D. – European elites become familiar with refined sugar through colonial extraction.

1800 A.D. – Sugar is seen as a staple in English people's diets, usually taken with tea, coffee or chocolate.

1900 A.D. – Sugar comprises 1/5 of English people's caloric intake.

SUGAR

SWEET

# FOOD

---

- It is suggested that sugar fuels England's industrial revolution, and subsequent political domination of the 1800s.
- Sugar fuels the labor force, by providing quick cheap energy source to factory workers.
- Tea with sugar becomes indispensable English dietary staple.
- It was cheap largely because it came from slave labor.
- Industry enslaved many, both literally and metaphorically in the sense of wage labor.

SUGAR

SWEET

# Food

---

SUGAR

SWEETS



It grows here

Sugar doesn't  
grow here

# FOOD

SUGAR

SWEETS



**SUGAR**

**FOOD**

**Sugar is transformed from  
a luxury to a necessity...**

**SWEET**



**SUGAR**

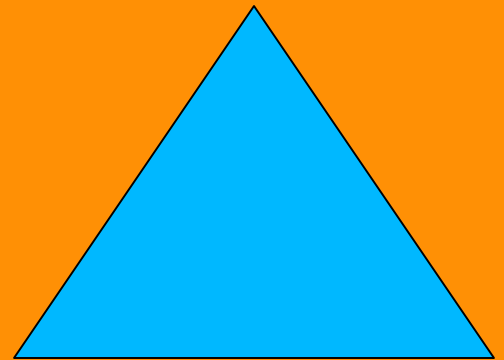
**FOOD**

**SWEET**

**How much is the craving for sugar  
biologically and evolutionary built-in?**

**And how much is it a cultural-social  
construction?**

# The Future



# Sustainability?

Can we grow forever?

Is sustainable growth a nonsense statement?

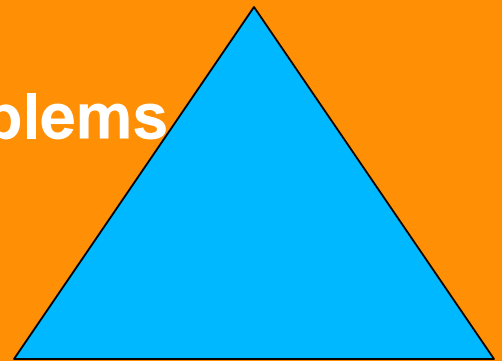
What is a renewable resource?

Sustainable for who? For what?

Sustainable or Resilient?

Can we predict our way out of looming problems

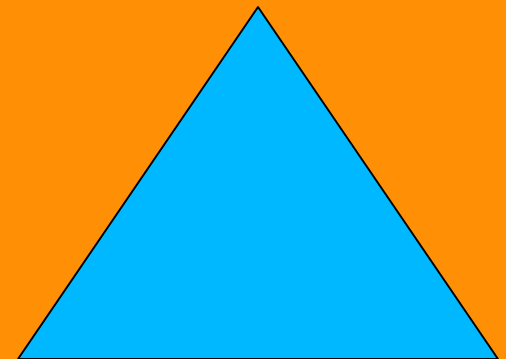
Can technology save us?



# Sustainability?

Genetically modified foods?

Our foods have been genetically modified for the past 10,000 years.



# Sustainability?

Feeding 9 billion  
people?

