Zones of domestication in East Asia
North & South China → Yellow & Yangzi River Drainages

- East Asia Neolithic
  - Yangzi vs. Yellow
- South rice-buffalo
  - warm-wet Holocene
  - *Oryza sativa*
  - natural flooding
  - mid-low Yangzi
    - Diaotonghuan: 8-6000 BC
    - Pengtoushan: 7-6000 BC
    - Hemudu: 5-3000 BC
- North millet-pig-dog
- SEA monsoon
- wild progenitors
  - millets, sorghum, mulberry, hemp
- middle Yellow River
  - early Neolithic 6000-5100 BC
  - mid Neolithic 5200-3000 ka
    - ethnogenesis =
  - late Neolithic 3-2000 BC
  - prelude to Chinese Civilization
- Ceramics v. Pottery
  - additive tech

Synchronous, independent origins of agriculture

- domestication of rice…
  - wild type = *Oryza sativa*
  - requires…
    - >1000 mm precipitation
    - >16°C (61°F) during ripening
    - grown in ~10cm of water
    - “paddy” water is maintained throughout life-cycle
- wild rice: SE margins of Tibetan Plateau
  - marshes & lake margins
  - warm-wet Holocene
    - wild rice expand to middle and upper reaches of the Yangzi River
- early experimentation with extending natural flooding of landscape

- dams and modified landscape drainage
  - simple or complex?

- what is being manipulated?
  - $e \rightarrow$ expected energy?
  - $h \rightarrow$ expected handling costs?
  - $\lambda \rightarrow$ expected encounter rate?

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**Diaotonghuan 8-6000 BC**
- moderate quantities of rice phytoliths
  - glumes > leaves
  - early ceramics

**Pengtoushan 7-6000 BC**
- settled village
- abundant rice remains
- ceramics with rice grain/husk/straw temper

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**Hemudu 5-3000 BC**
- wet site (organic preservation)
- bone hoes, oars
- complex wooden architecture
  - mortice & tenon; pile dwellings
- abundant rice remains
- pig, water buffalo, dog
- abundant marine resources

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*O. sativa*
Domestication along desert-loess margins where populations most stressed → spread south to semi-arid region

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- **domestication of millet**
  - millet = diverse group of grasses
    - *Setaria* spp.
    - *Panicum* spp.
  - drought tolerant and well adapted to arid and semi-arid growing conditions
  - very easily domesticated (but also reverts easily)

- **hemp**
Nope…not dope…just rope!

terminal Pleistocene intensification among desert foragers

- Xiachuan, N. China
  13-10,000 BC
  - Younger Dryas
  - simple hunter-gatherers
  - microblades and high mobility

Early & Middle Neolithic Sites in N. China 6300-3000 BC

- Peiligang culture 6300-5100 BC
- Cishan (site) 6000-5700 BC
  - mature millet-pig-dog complex
  - pit houses, hundreds of people
  - large storage pits FILLED with millet
  - lots of wild foods too…fish, turtles
  - serrated sickles & grinding equipment
Middle Neolithic in North China

Banpo Village, Shaanxi (left)
storage pits and defensive ditch (?)

- Yangshao culture 5200-3000 BC
  - Banpo Village 4-3000 BC
    • mature millet-pig-dog
    • storage pits, kilns & a cemetery
    • defensive/symbolic ditch
    • matrilineal clans

Ethnogenesis = formation or emergence of a recognizable ethnic group

early Yangshao → recognizable functional forms

steamer from Banpo, Yangshao, middle Neolithic, 6-5 ka

Ethnogenesis …
late Yangshao and the origins of Chinese characters

late Neolithic
Longshan 3-2000 BC
  • rammed-earth walled towns
  • systematic warfare
  • use of copper
  • black “high-fired” ceramics

direct precursor of Xia Dynasty
- ceramics = technologies where artifacts are modeled or molded from clay and then made durable by firing
- pottery = clay containers formed by hand, made on a mold or thrown on a wheel; often decorated and then fired

major difference with stone tech?

reductive

additive