

# Main Points

- 1) Recap from 23 November
- 2) The biggest shift in human history: the hunter-gatherer to agriculturalist transition
  - factors predisposing species to domestication
  - example: a precursor to domestication involving a primate and a canid
  - example: a biogeographic hypothesis as an alternative to a racist hypothesis
- 3) The mixed blessing of agriculture to the third chimpanzee

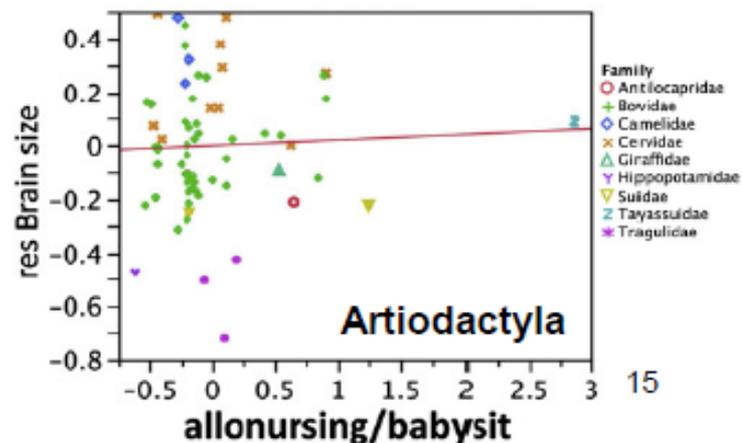
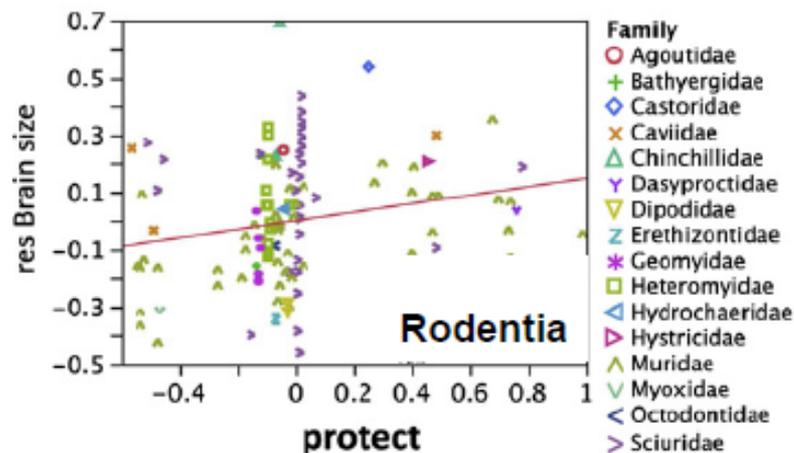
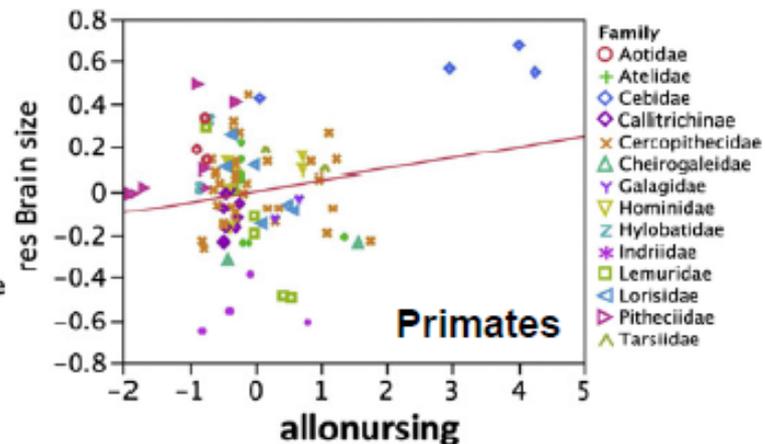
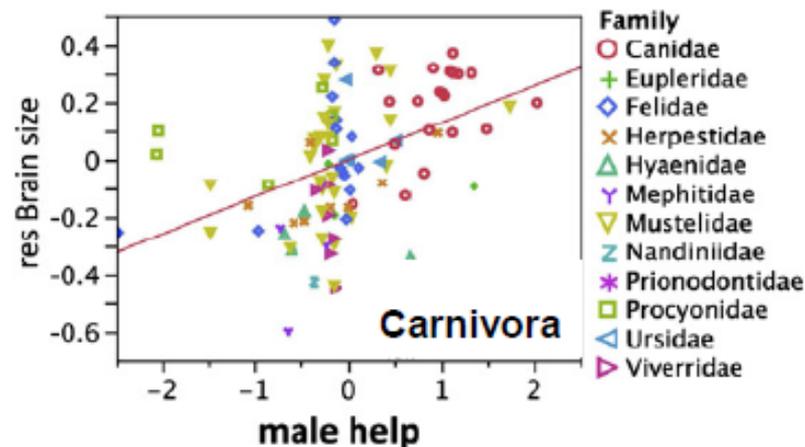
**Pre-Reading: Weds 2 Dec = Brown et al 2014**

**Monday and Wednesday 7 and 9 Dec = optional test 3. If you are in Monday's lab and opt to take test 3, you are free to take test 3 between the hours of 2-5pm on Wednesday. Email Anne-Marie about when you will take the final. If you are in Wednesday's lab and opt to take test 3, you will take test 3 Monday at 110pm. This test will cover material through 2 December.**

**Terms: domestication**

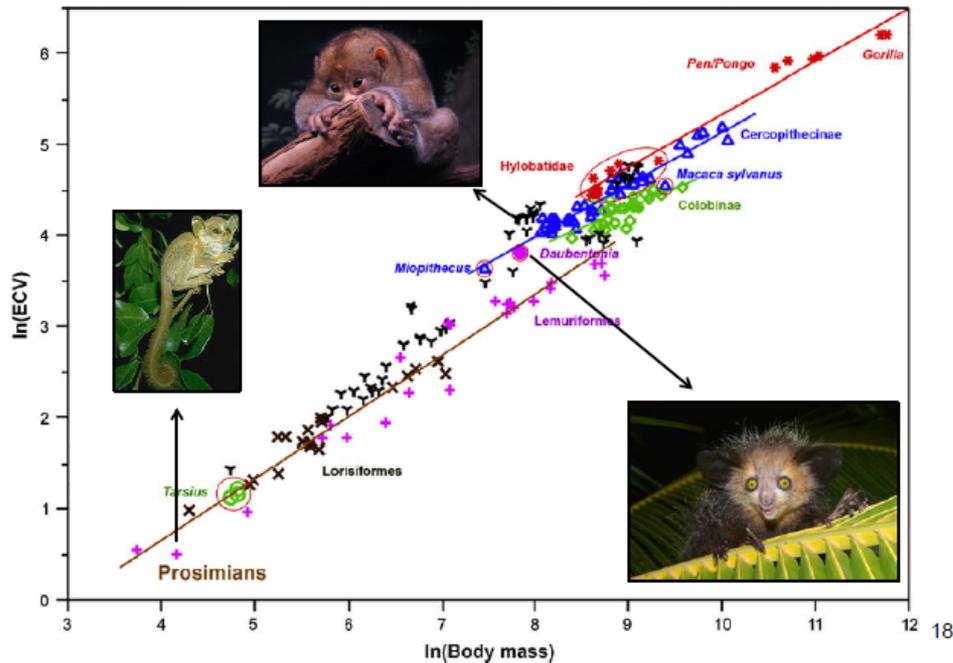
# Lecture 19 recap: relative brain size is associated positively to allomaternal care across mammals.

## Brain size, allomaternal care, and longevity

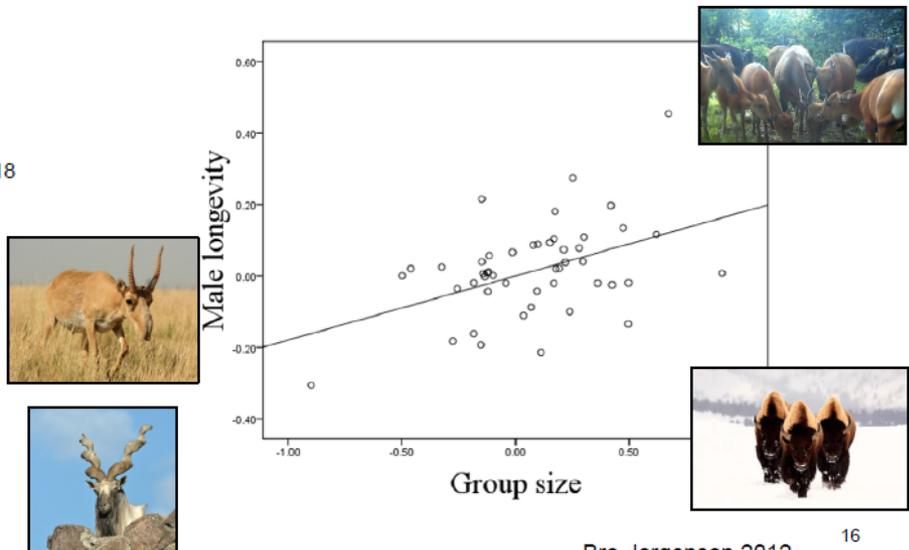


# Lecture 19 recap: relative brain size is associated with herding behavior in ungulates and social complexity in primates. Both herding behavior and social complexity are associated with long lifespans.

## Brain size, social flexibility, and longevity



## Brain size, anti-predator defense, and longevity



**Lecture 19 recap: leaders in mammal societies influence movement, food acquisition, within-group conflict mediation, and between group interactions (especially war).**



# The (pre)history of mammal domestication

**domestication = captive breeding of species by humans, which thereby modifies species genetically from wild ancestors for the purposes of economic use by humans.**

**Dukha girls and caribou/reindeer, Mongolia**



**Caucasian man, horses, and cattle, Wyoming**



# The (pre)history of mammal domestication

**A 13,000 year history with so many questions!**

**-- why did this operate on so few (mammalian) species, in so few places? 14 out of 148 ungulates >90lbs domesticated; 100 out of 20,000 wild plants domesticated.**

**Dukha girls and caribou/reindeer, Mongolia**



**Caucasian man, horses, and cattle, Wyoming**



# The (pre)history of mammal domestication

A 13,000 year history with so many questions!

- why did this operate on so few (mammalian) species, in so few places? 14 out of 148 ungulates >90lbs domesticated;
- why did people adopt it?
- how did it spread?

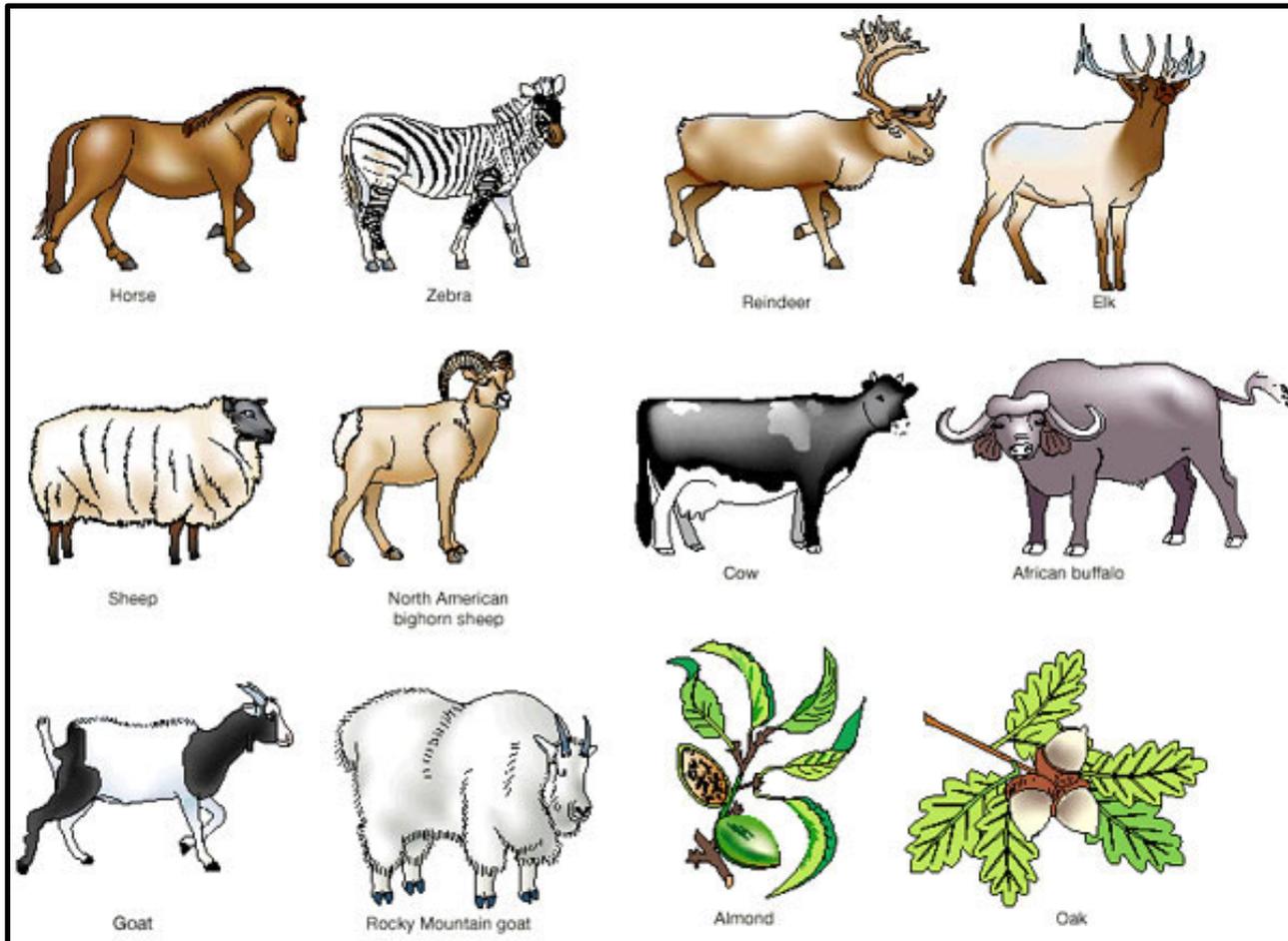
Dukha girls and caribou/reindeer, Mongolia



Caucasian man, horses, and cattle, Wyoming



# Characteristics of domesticated mammals



Pairs of related (sort of) mammals.

Domesticated species are on the left.

Wild counterparts are on the right.

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- 3) Domesticated mammals often are not territorial, nor do they have elaborate courtship rituals.



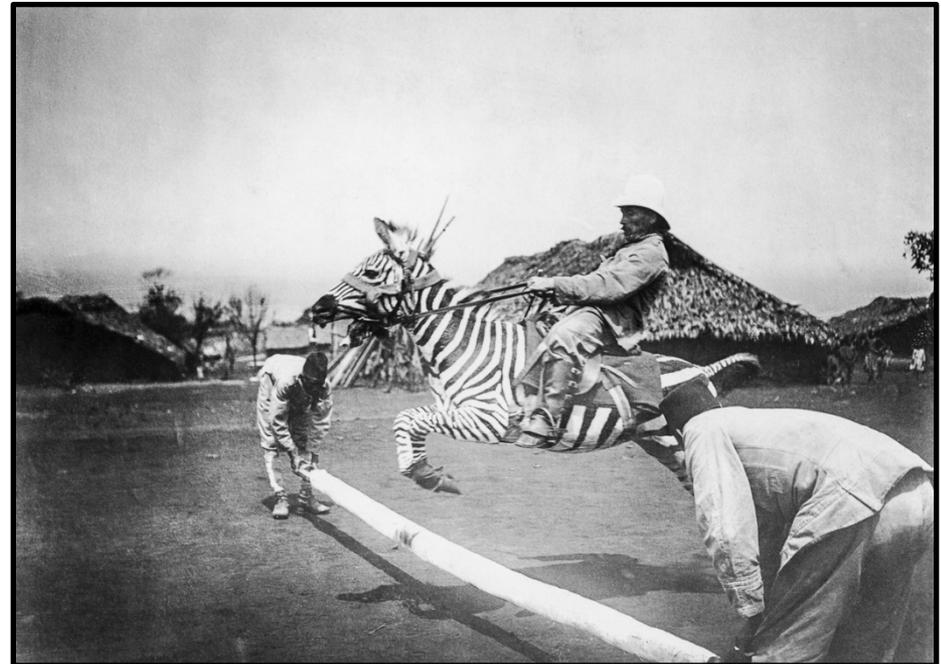
# Characteristics of domesticated mammals

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# Characteristics of domesticated mammals

- 1) Domesticated mammals cannot be picky eaters.
- 2) Ideally, domesticated mammals should reach maturity quickly.
- 3) Domesticated mammals often are not territorial, nor do they have elaborate courtship rituals.
- 4) Domesticated mammals usually are more docile than their wild counterparts.
- 5) Domesticated mammals are not typically “flighty”.



# Characteristics of domesticated mammals

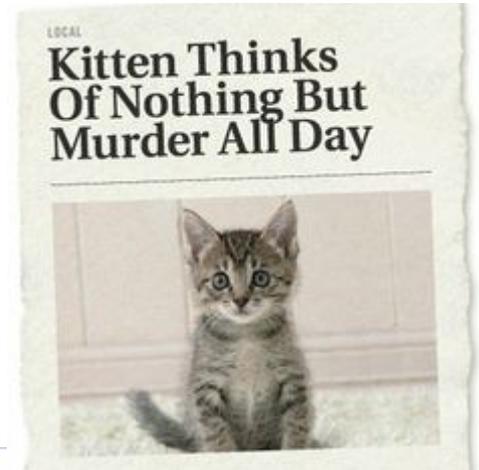
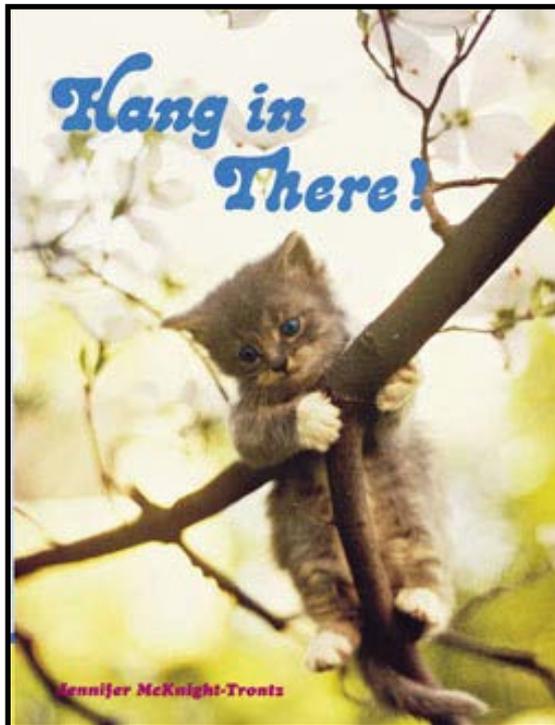
6) Domesticated mammals usually have a dominance hierarchy with leadership, and come to recognize humans as their “owners”.



# Characteristics of domesticated mammals

6) Domesticated mammals usually have a dominance hierarchy with leadership, and come to recognize humans as their “owners”.

An exception?



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## Inspirational Poster Kitten Falls To Death After 17 Years

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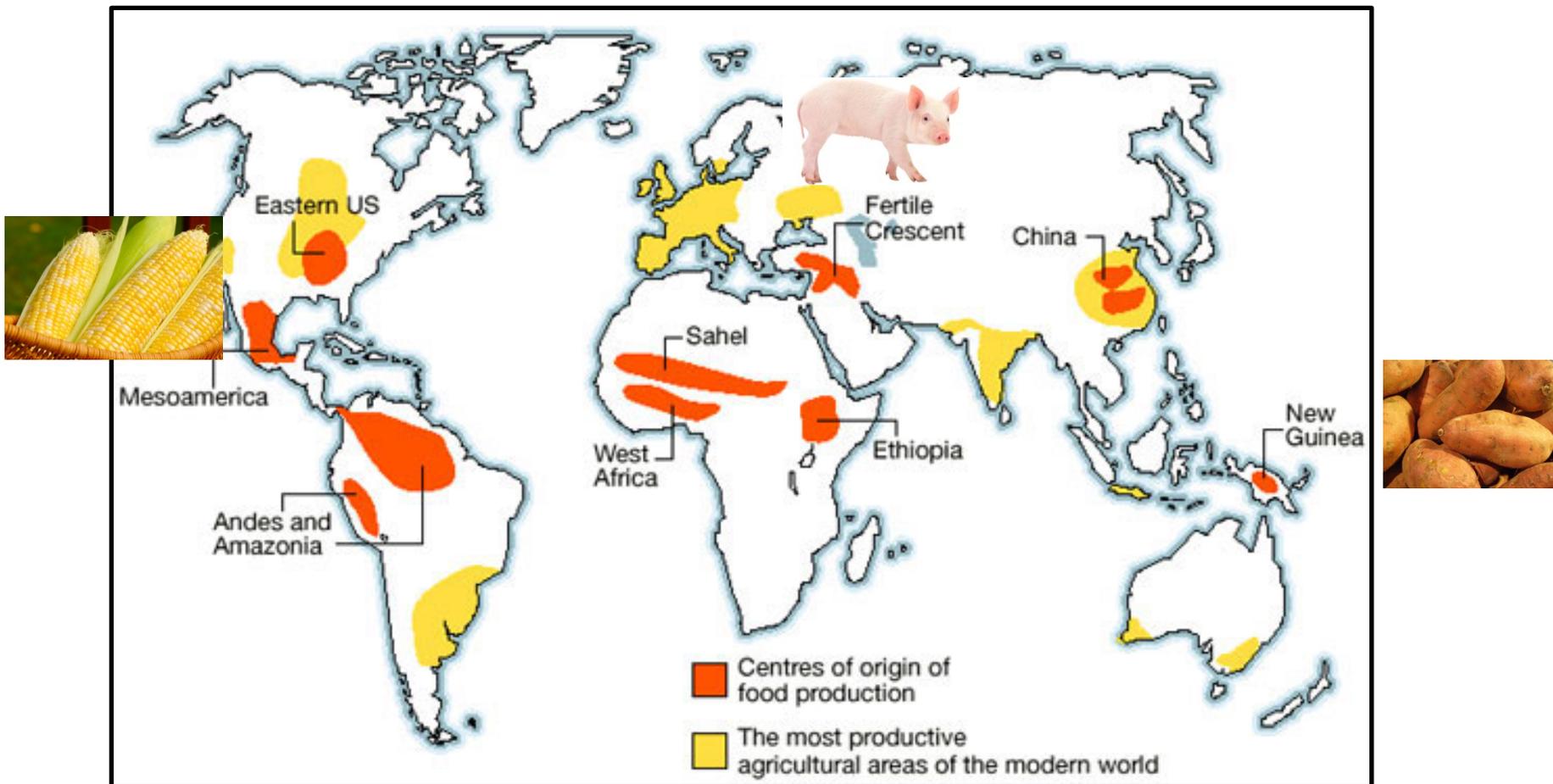
Woman Shows Hairstylist Example Of Haircut She Wants  
The Onion





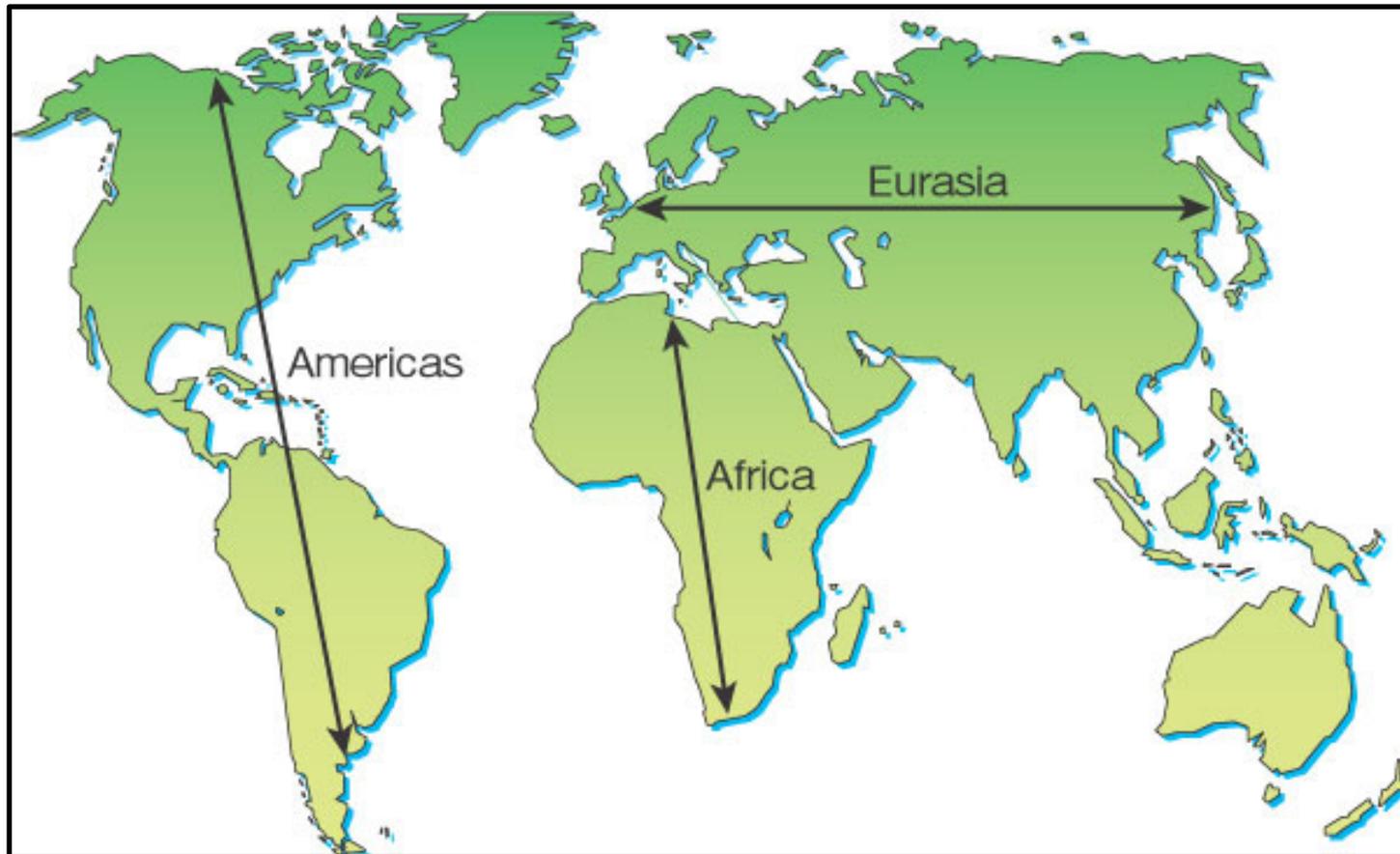
# The biogeography of agriculture

Productive areas are rarely where animals and plants were first domesticated.



# The biogeography of agriculture

Locations at the same latitude share the same daylengths and seasonalities, and often have similar climates, and require less evolutionary change/adaptation of domesticated mammals and plants.

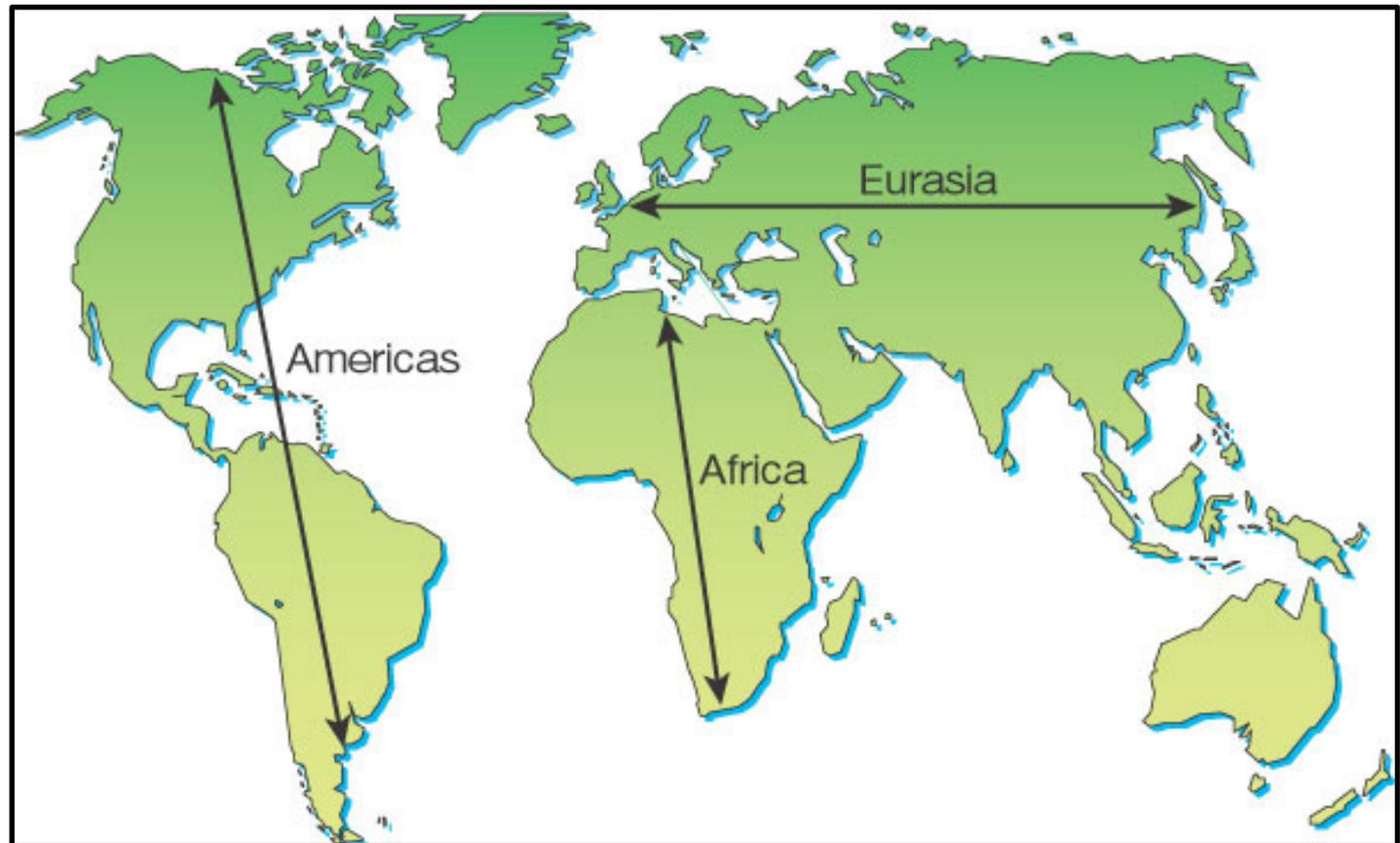


# The biogeography of agriculture

**The east-west orientation of Eurasia (relative to the north-south orientation of Africa and the Americas) may explain current lags in economies, medicine, and technologies of developing countries.**

--3300-3000 BC:  
Spread of horses  
and wheeled carts  
from eastern Russia  
to western Europe.

-- 5400-4400 BC:  
Spread of chickens  
from China to western  
Europe.

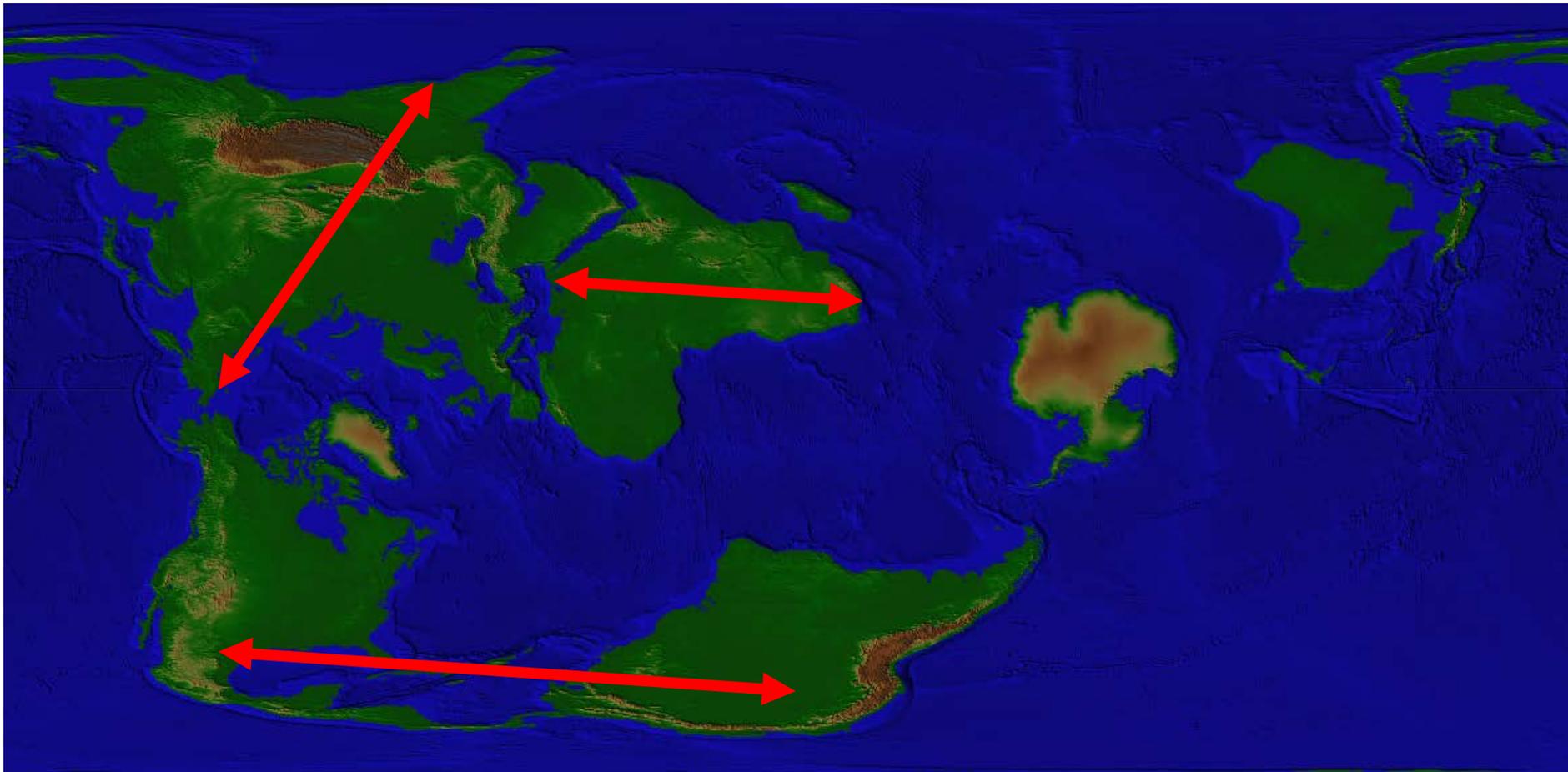


# **The biogeography of agriculture**

**Domestication permitted the development of tools of conquest—primarily firearms and steel—that enabled early agriculturalists to outcompete, assimilate, or kill traditional hunter-gatherers.**

# The biogeography of agriculture

The east-west orientation of Eurasia (relative to the north-south orientation of Africa and the Americas) may explain current lags in economies, medicine, and technologies of developing countries.



# Benefits of agriculture?

- **Domestication (and agriculture in general) resulted in:**
  - art
  - language
  - more reliable food supplies
  - more diverse diets
  - division of labor (?)

# **Costs of agriculture?**

- **Domestication (and agriculture in general) resulted in:**
  - living with strangers**
  - on average, more work per individual**
  - on average, lower social status**
  - reduced status of women in most societies**
  - reduced status of the elderly in most societies**
  - poorer health and nutrition**
  - larger (though not necessarily more frequent) wars**
  - more government to prohibit cheating and to resolve conflicts within and among societies of strangers**

# The history of domestication points to a solution for those favoring less government...



DONT TREAD ON ME

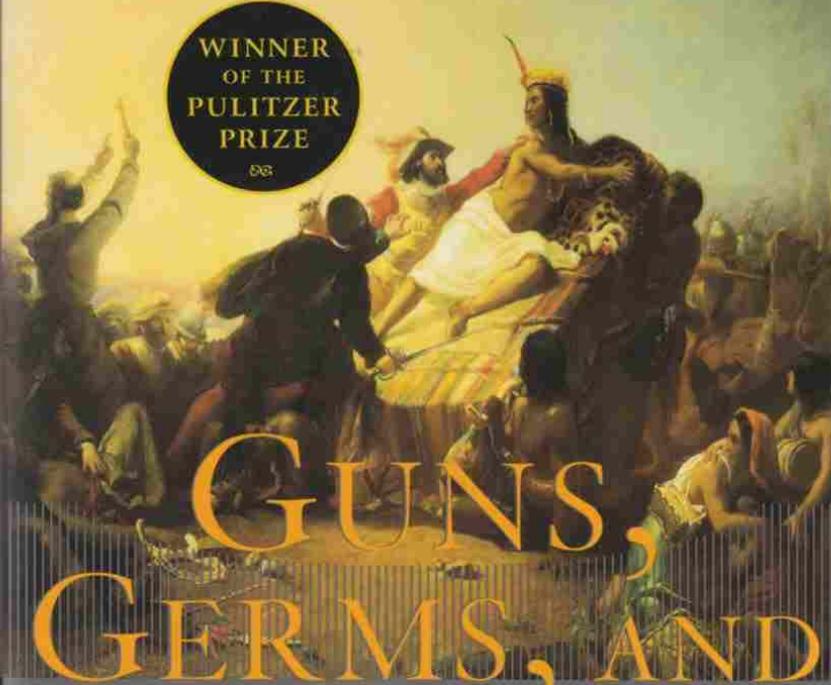


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038



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