Introduction

Schedule

Core Readings

Homework Assignments

Essay Assignments

Supplemental Readings

Useful websites

Datasets

UNIVERSITY OF MINNESOTA

Department of History

History 3797
History of Population

Spring 2009

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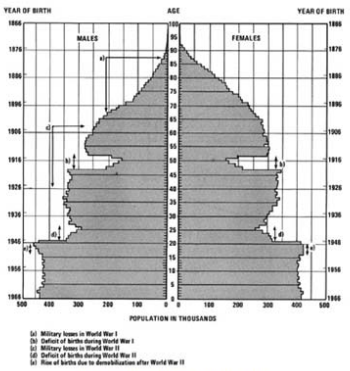


(Click on the figure to enlarge)

Introduction

This course provides an introduction to population history through critical analysis of controversial debates in the field. The schedule identifies three types of class

Schedule

Click on week for required readings

Week 1.
January 20. Introduction (very brief to allow time to watch the inauguration)
January 22. Lecture: The Agricultural Revolution and demographic theory

Week 2.
January 27. Guest Lecture: Robert McCaa on Paleodemography
January 29. Hands-on lab exercise 1: Online tabulation of census microdata.
(Note: lab exercises are in Anderson 150)

Week 3.
February 3. Lecture: Black Death and crisis mortality.
Homework #1 due
February 5. Methods and Sources: Concept of a Population; Principles of Demographic Measurement; Age, Period, and Cohort

Week 4.
February 10. Lecture: Pre-Columbian population and demographic collapse in the Americas
February 12. Hands-on lab exercise 2: Introduction to analysis in Excel.

Week 5.
February 17. Guest Lecture: Robert McCaa on Aztec Families.
Homework #2 due
February 19. Sources and Methods: Basic Demographic Measures: crude rates; age-specific rates; total fertility rate;

Week 6.
February 24. Lecture: Northwest European Family System
February 26. Hands-on lab exercise 3: Synthetic cohort measures

Week 7.
March 3. Guest Lecture: Christopher Isett on The Early Modern Chinese Demographic System

Core Readings

Week 1: Agricultural Revolution

Jared Diamond. 2002. "Evolution, Consequences, and Future of Plant and Animal Domestication." *Nature* 418: 700-707.
http://www.santafe.edu/events/workshops/images/c/c9/Diamond_Nature_02.pdf

George J. Armelogos, Alan H. Goodman, and Kenneth H. Jacobs. 1991. "The Origins of Agriculture: Population Growth During a Period of Declining Health." *Population and Environment* 13:9-22.
http://www.springerlink.com/content/m12v36v06608277g/fulltext.pdf

John C. Caldwell and Bruce K. Caldwell. 2003. "Was there a Neolithic Mortality Crisis?" *Journal of Population Research* 20: 153-168.
http://www.jpr.org.au/upload/20-2_153-168.pdf

Week 2: Paleodemography

Robert McCaa. 2002. "Paleodemography of the Americas: From Ancient Times to Colonialism and Beyond," in *The backboneof history: Health and nutrition in the Western Hemisphere*.
Edited by R. H. Steckel and J. C. Rose, pp. 94–126.
Cambridge: Cambridge University Press.
Text: http://www.hist.umn.edu/~rmccaa/paleodem.doc
Tables: http://www.hist.umn.edu/~rmccaa/paleodem.xls
Figures: http://www.hist.umn.edu/~rmccaa/paleo500.ppt

Jean-Pierre Bocquet-Appel, Stephan Naji, and Matthew Bandy. 2008. "Demographic and Health Changes During the Transition to Agriculture in North America." Chpter 10 in Jean-Pierre Bocquet-Appel, ed., *Recent Advances in Paleodemography*. New York: Springer.
http://www.springerlink.com/content/p66818011060v864/fulltext.pdf

Homework Assignments

Assignment #1. Use the IPUMS Online tabulation system to create graphs of the age distribution in the United States in 1850 and 2007. Compare the graphs carefully. Write a paragraph that (1) describes all the differences you see, and (2) speculates as to the possible causes of those differences. Email the paragraph to hist3797@gmail.com by February 3.

Essay Assignments

Essay #1. Pick a topic from the lectures and readings for weeks 1 through 8. Select 2 or 3 supplemental readings on the topic, drawn from the list below or your own research. Write a critical essay of 500-1000 words describing your reaction to the readings and lecture. Who is right and who is wrong? Why? What kind of evidence did you find most persuasive? What evidence was unpersuasive? Write you essay in Word or another major word-processing program and email it to hist3797@gmail.com by March 24.

Supplemental Readings

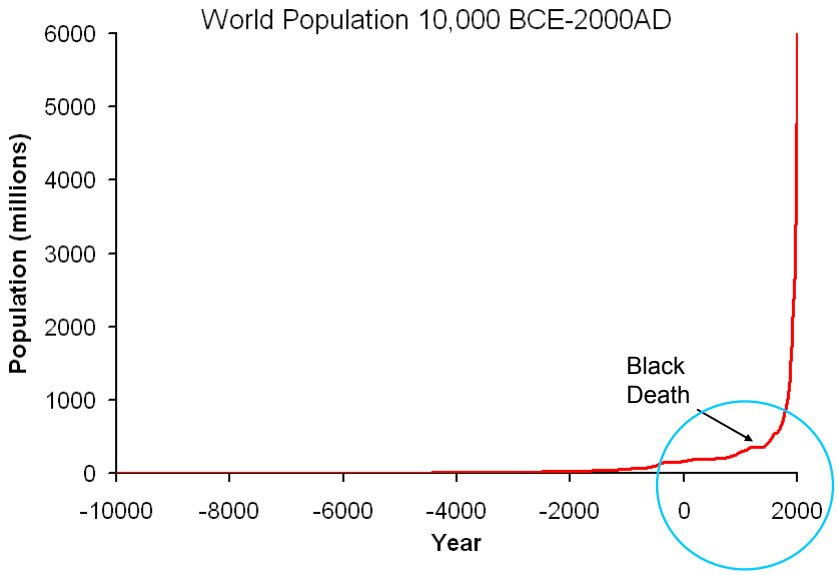
Population Handbook, Population Reference Bureau (4th edition)
This item is intended as a reference and may be useful for the homework and labs.

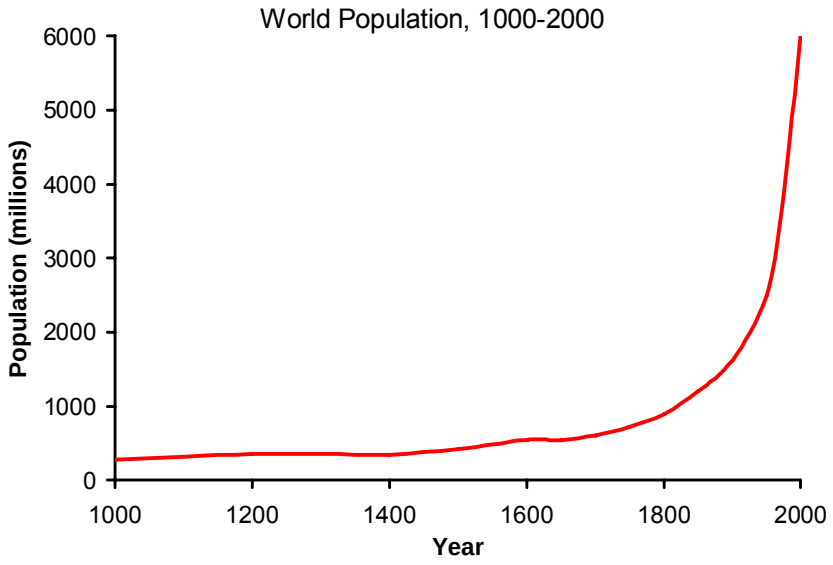
For your two essay assignments, you should read 2 or 3 articles in addition to the core readings. The following are suggestions, organized by weekly topic.

Week 1:
Michael Lipton. 1989. "Responses to Rural Population Growth: Malthus and the Moderns."
Population and Development Review, Vol. 15, Supplement: Rural Development and

Lecture Outline

1. Introduction
2. Reproductive strategies of organisms and the Balancing Equation
3. Paleolithic developments
4. Agricultural Revolution and Neolithic population



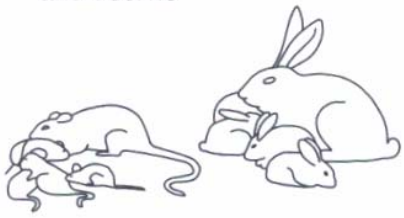


Lecture Outline

1. Introduction
2. Reproductive strategies of organisms and the Balancing Equation
3. Paleolithic developments
4. Agricultural Revolution and Neolithic population

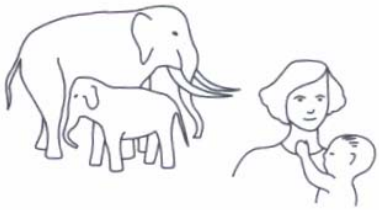
r strategy

- Precarious equilibrium with the environment
- High rates of increase
- Violent and in some cases regular cycles of growth and decline



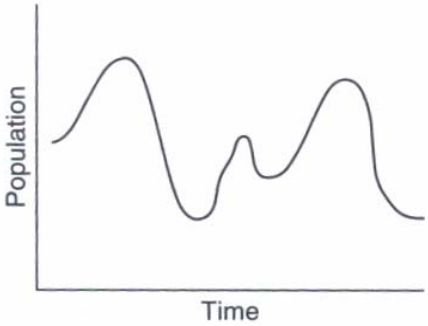
K strategy

- Stable equilibrium with the environment
- Rates of increase compatible with environment
- Slow and irregular cycles

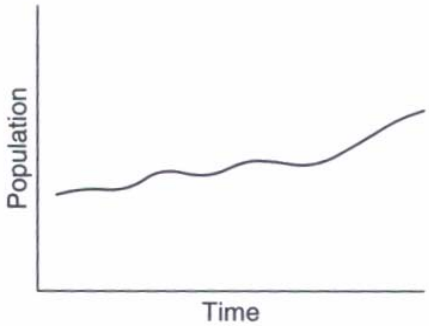


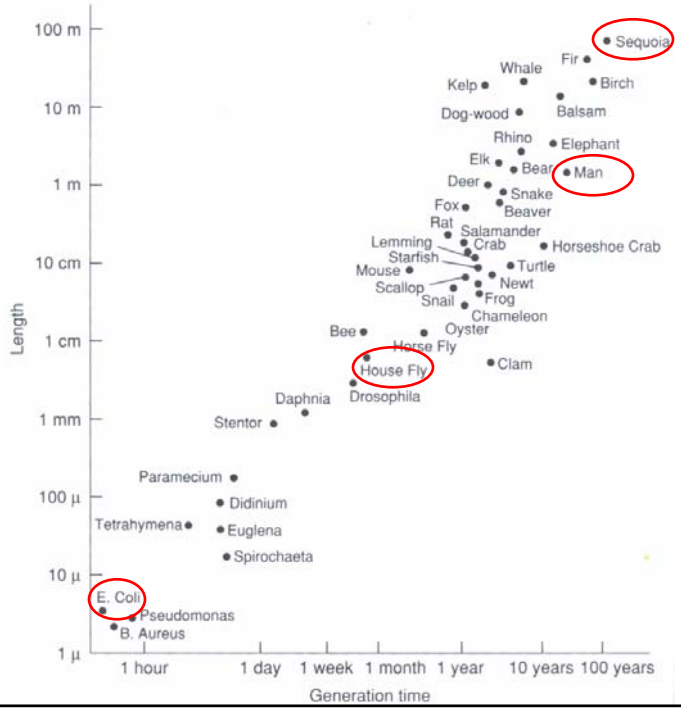
Bioreproductive characteristics

- Small bodies
- Short lives
- Short gestation
- Large litters
- Short intervals between births
- Short length of generation
- High potential rates of growth



- Large bodies
- Long lives
- Long gestation
- Single births
- Long intervals between births
- Long generations
- Low potential rates of growth





Balancing Equation

Assuming closed population (like the world):

$$\Delta P = B - D$$

With migration:

$$\Delta P = B - D + I - O$$

ΔP = change in population
B = Births
D = Deaths
I = In-migrants
O = Out-migrants

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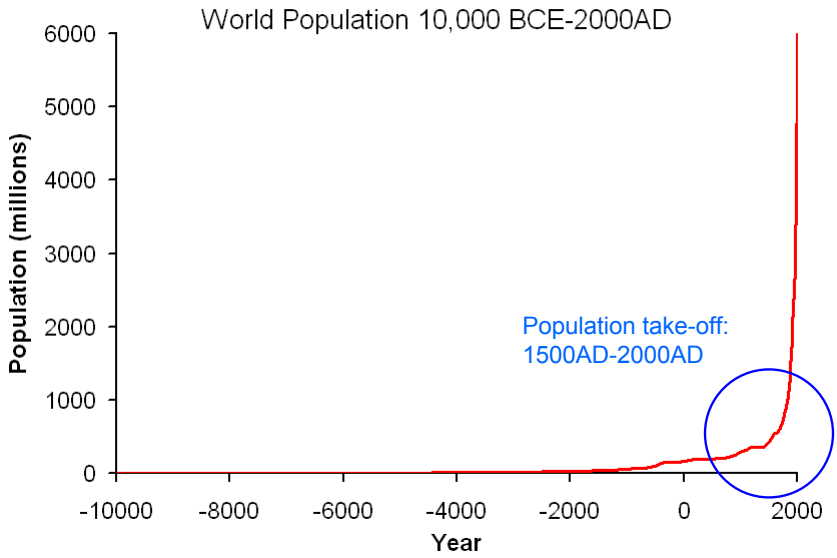
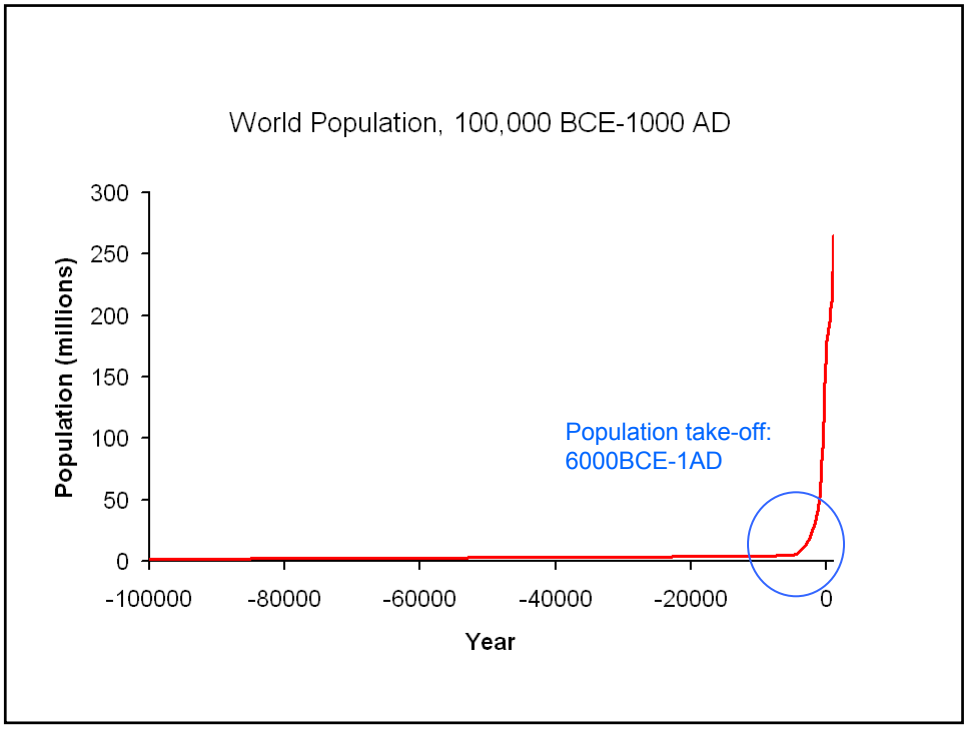
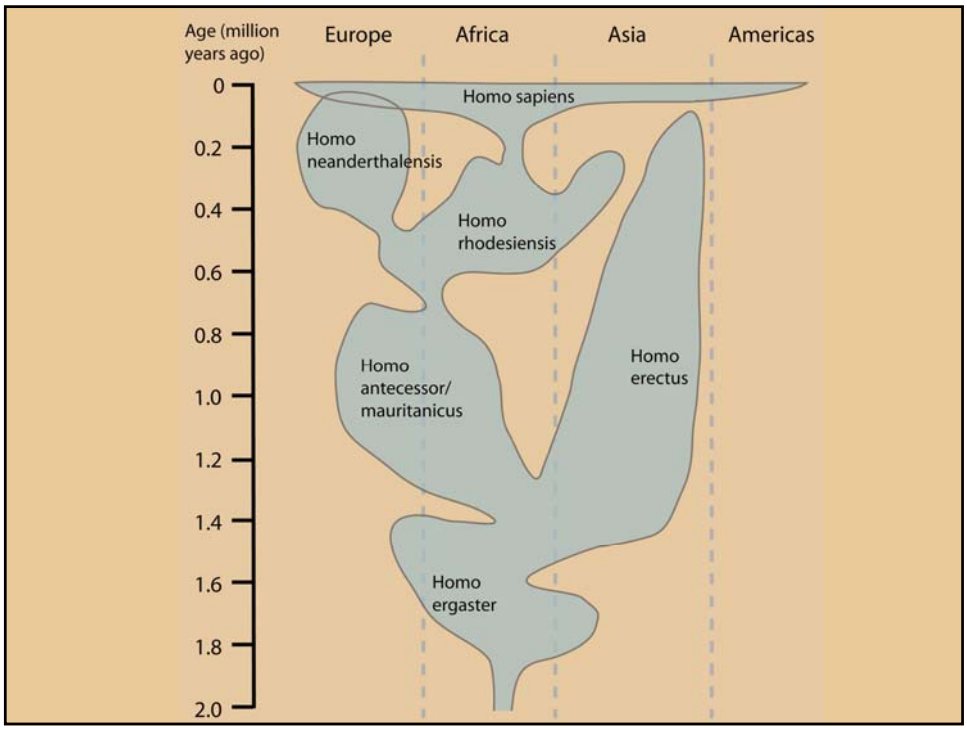
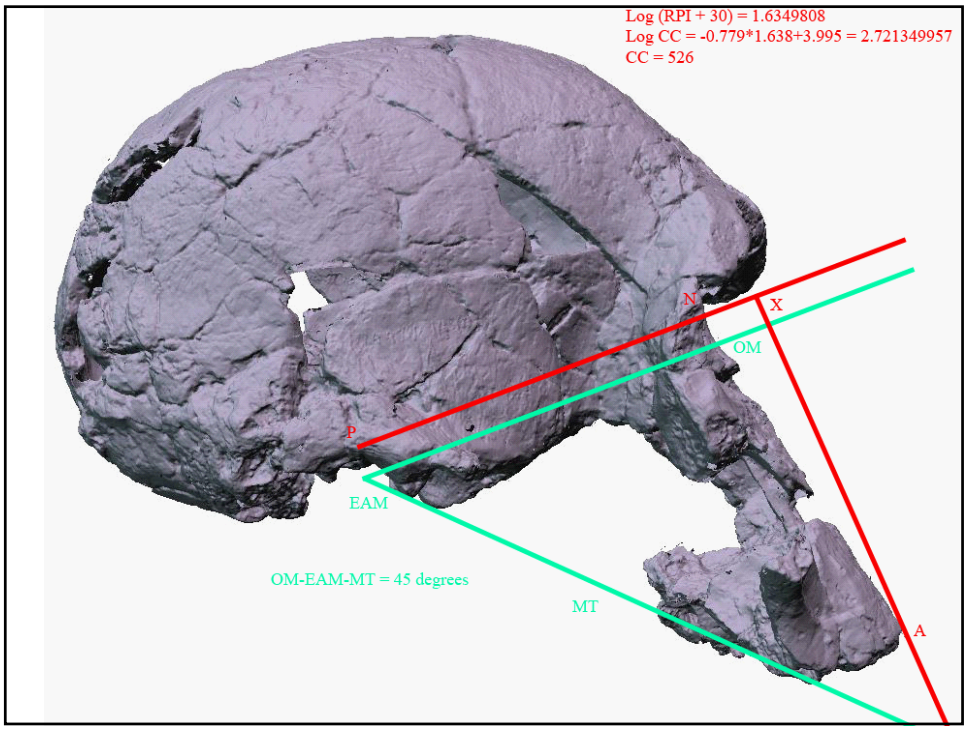
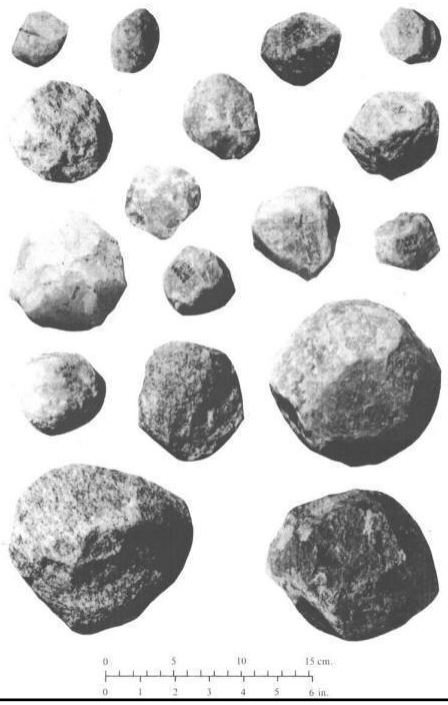



World Population, 100,000 BCE-1000 AD
Population (millions)
300
250
200
150
100
50
0
-100000
-80000
-60000
-40000
-20000
0
Year
Population take-off:
6000BCE-1AD


Age (million years ago)
Europe
Africa
Asia
Americas
0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Homo sapiens
Homo neanderthalensis
Homo rhodesiensis
Homo antecessor/ mauritanicus
Homo erectus
Homo ergaster


Log (RPI + 30) = 1.6349808
Log CC = -0.779*1.638+3.995 = 2.721349957
CC = 526
N
X
OM
P
EAM
OM-EAM-MT = 45 degrees
MT
A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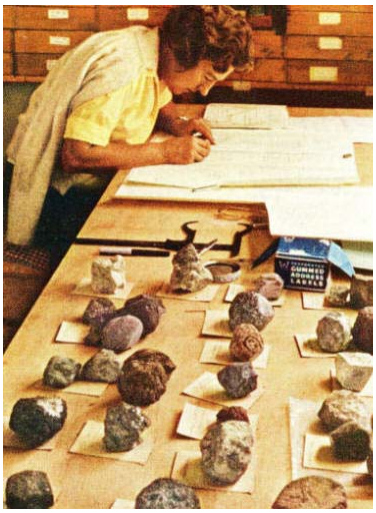
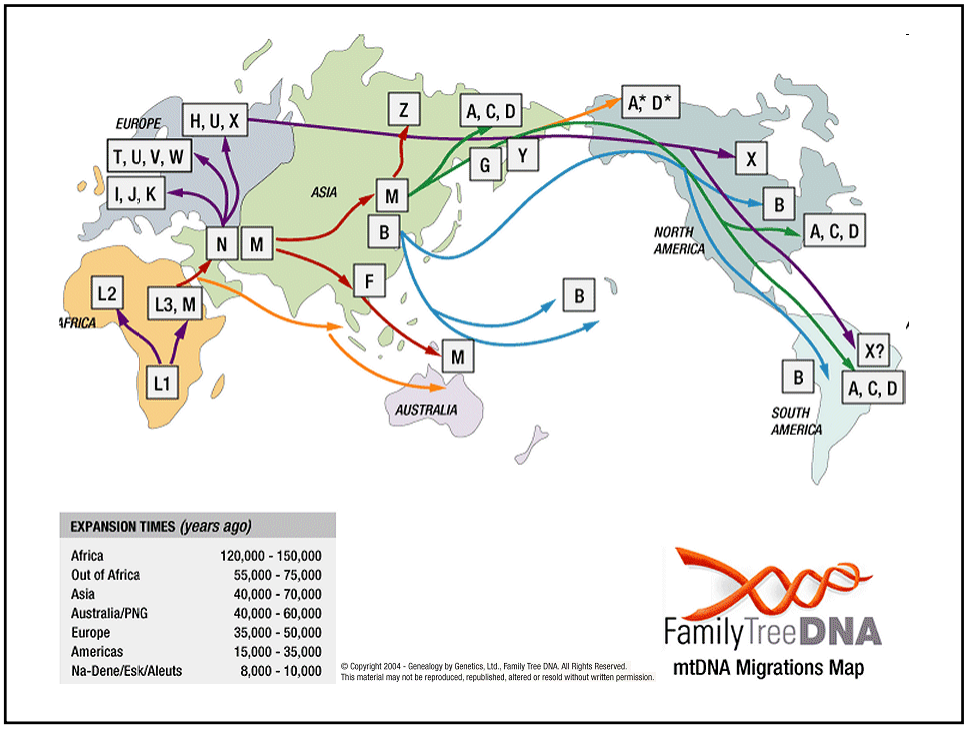
0 1 2 3 4 5 6 in.



Handaxe, Algeria, ca. 700,000 BP

Neanderthal tools, ca. 250,000 BP

Upper Acheulean handaxes from
Kalambo Falls, 180,000 BP


EUROPE
H, U, X
T, U, V, W
I, J, K
N
M
L2
L3, M
L1
AFRICA
ASIA
Z
A, C, D
G
Y
M
B
F
B
M
AUSTRALIA
A,* D*
X
B
A, C, D
NORTH AMERICA
B
X?
A, C, D
SOUTH AMERICA
EXPANSION TIMES (years ago)
Africa 120,000 - 150,000
Out of Africa 55,000 - 75,000
Asia 40,000 - 70,000
Australia/PNG 40,000 - 60,000
Europe 35,000 - 50,000
Americas 15,000 - 35,000
Na-Dene/Esk/Aleuts 8,000 - 10,000
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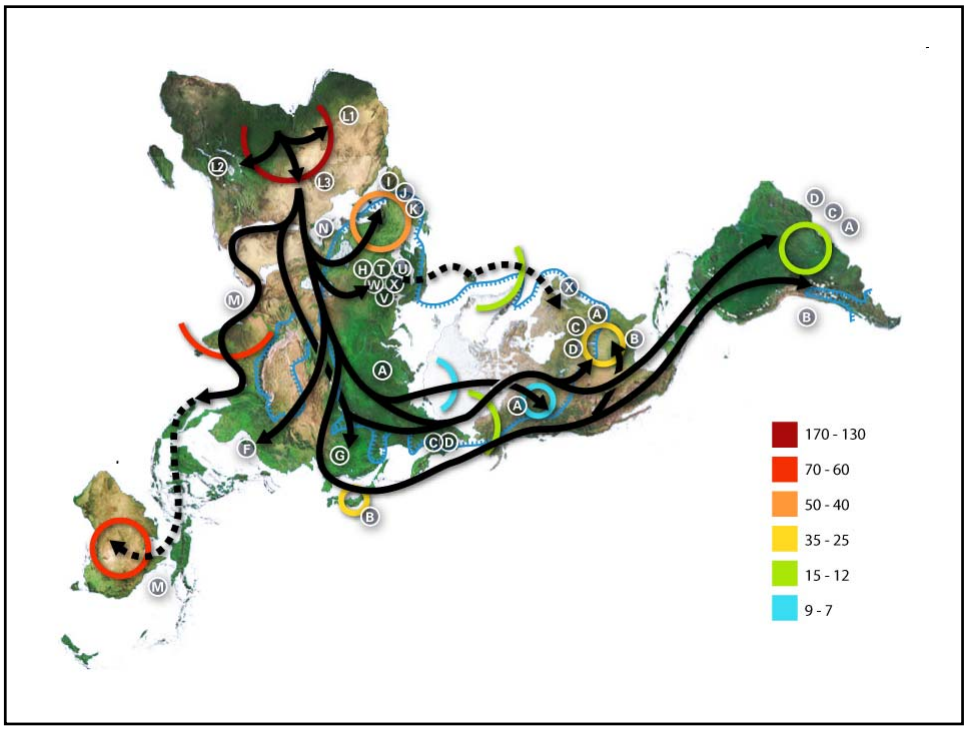
FamilyTreeDNA
mtDNA Migrations Map


170 - 130
70 - 60
50 - 40
35 - 25
15 - 12
9 - 7

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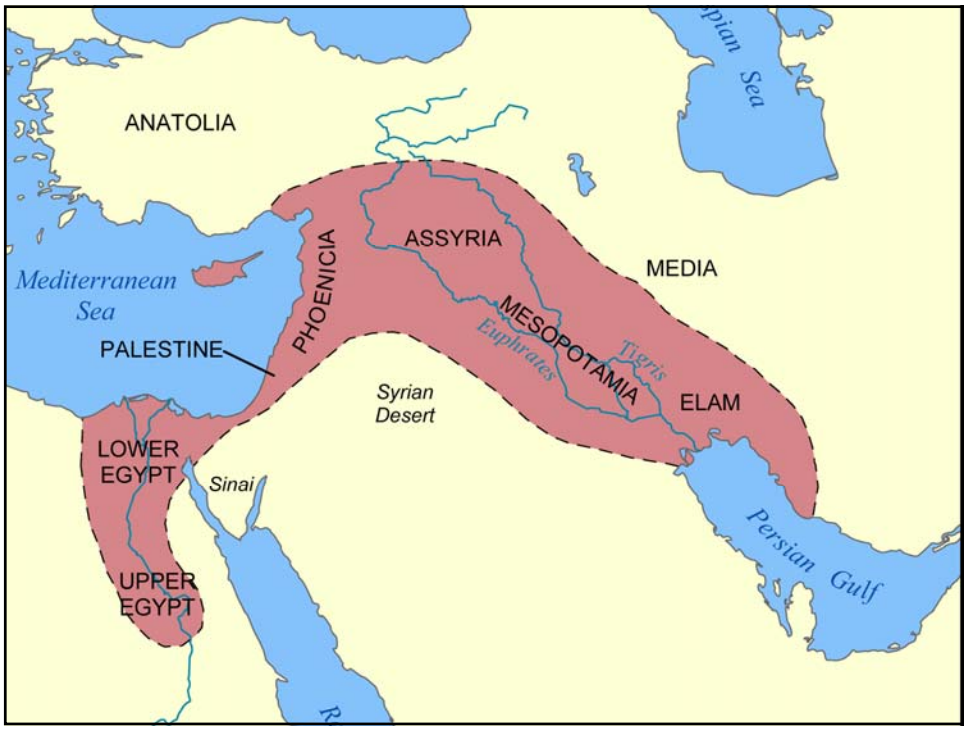


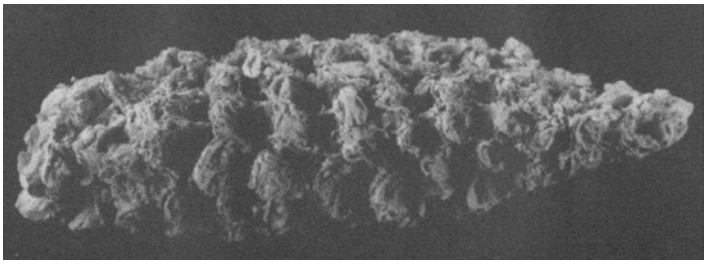
Emmer

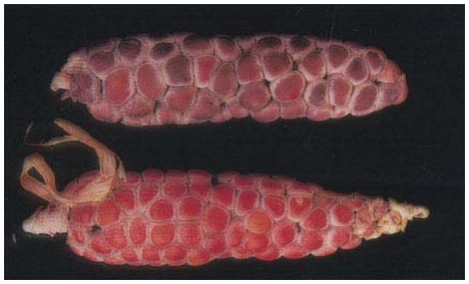
Wild Barley

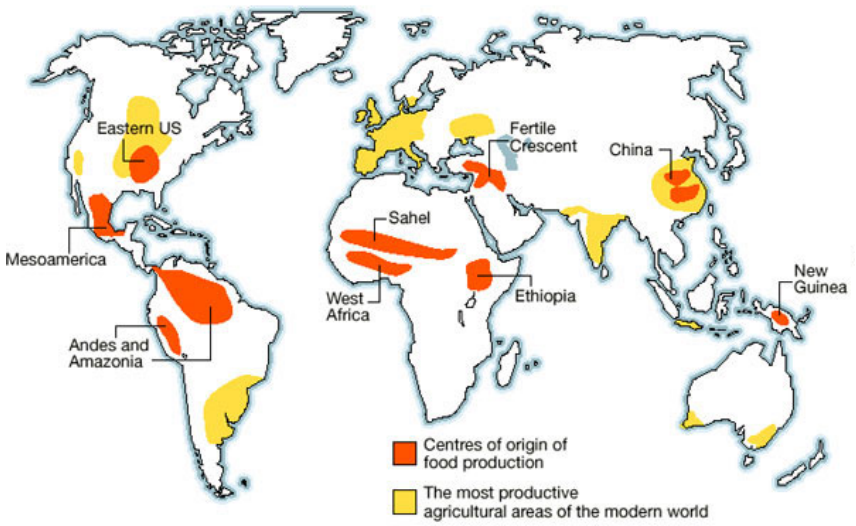
Einkorn wheat

Neolithic grind stone for processing grain

Domesticated Squash seed from
Oaxaca, Mexico, ca. 10,000 BP



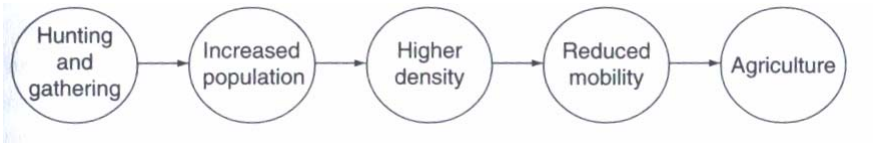




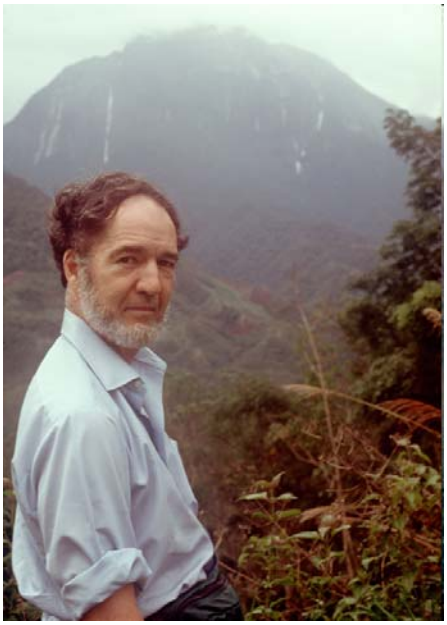
Main theories to explain simultaneous development of agriculture around the world

- The big animals were exterminated by overhunting.
- Global warming at the end of the last ice age stimulated development everywhere.
- Agriculture and economic development were inevitable developments, once human culture had been set in motion
- The agricultural revolution was driven by population pressure

Mark Cohen's interpretation:
Agriculture resulted from
population pressure

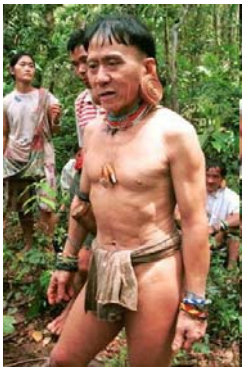


Jared Diamond in New Guinea



Botswana Bushmen

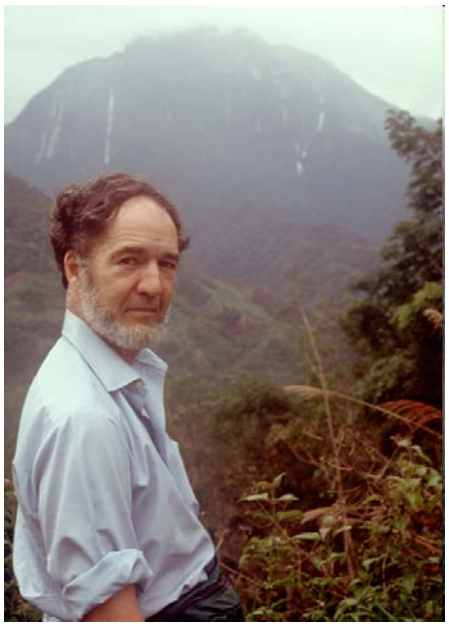
Akie, East Africa savannah



Penan, Borneo forest

Matis in the Amazon

Shoshone, ca. 1900



Jared Diamond in New Guinea

Two opposing theories of Neolithic demography

- Classic theory:
  - Improved food supply, reduced predatory threat, *reduced* mortality, so deaths declined and population grew.
- New Theory:
  - Decline in food quality, increase in potential for crop failure, increase in transmission of disease *increased* mortality, so deaths increased.
  - Reduced birth intervals and decline in the cost of childrearing led to an increase in births, more than compensating for the increase in deaths.

Some Unanswered Questions

- Why did agriculture emerge at several places around the world at almost the same time?
- Did agriculture stimulate the Neolithic take-off in population growth, or did the population growth stimulate the adoption of agriculture? Or was it a little bit of both?
- Did the introduction of agriculture lead to a worsening or improvement of human health and nutrition?