Early Interests

• Generally accepted that Native America are descended from Asian colonists sometime prior to 12,000 years ago.
• Jose de Acosta (1589), a Jesuit missionary to South America, noted the resemblances of Siberians and Native Americans.
• George McJunkin (1927), found bones of extinct bison with Paleoindian spear points near Folsom, New Mexico, which supported the antiquity of Native Americas.

Common Hypotheses Regarding the Peopling of the Americas:

• Bering Land Bridge
• Pacific Coastal
• Pacific Crossing
• Atlantic Crossing

18,000 Year Ago

13,000 Years Ago
Mackenzie Passage

11,000 Years Ago

Early Americans
“Clovis First” hypothesis
The Faunal Data
- Evidence of non-human animal's use of the Mackenzie Passage: but no definitive evidence that it was used by humans.
- Possible correlation between the extinction of various large mammals with human expansion
- Previous theories of that Clovis people were primarily big game hunters (note: this theory is starting to break down as there more evidence for a diverse diet(s).

The Skeletal Morphology Data: for Amerindians
- A single migration at 12,000 Years Ago with Subsequent Differentiation (Powell 1995)
- A two migrations starting at 12,000 Years Ago (Mumford et al. 1995)
- Multiple migrations starting at 12,000 years ago (Nelson 1998; Jantz and Owsley 1998)

The Artifact Data
- Clovis: throughout North America by 11,500 year ago
- Led to popular “Clovis First” hypothesis
- Monte Verde and El Jobo artifacts at ~ 12,500 years ago
- Becoming more accepted as authentic (or at least as authentic as the Clovis sites)
- Perpetual battle against the “Clovis First” people
- Still some controversy regarding the dates, but at very latest, would be contemporary with Clovis (in South America)

The Earliest Artifacts
- Clovis: ~11,000 B.P.
  - Fluted
  - North America
- Monte Verde: ~13,000 B.P.
  - Bolas, Digging Sticks, Points
  - Chile
- El Jobo: (Ouch!)
  - ~12,000 B.P.
  - Venezuela
  - Bipointed Rhomboidal

Evidence in Language
Nichols (1980)
- Current Linguistic Difference Require at Least 20,000 years (50,000 if in a single wave)

Greenberg Hypothesis: (Greenberg, Turner and Zegura 1986)
- Linguistic, Dental, and Genetic
- Happen to Fit Popular Clovis model (first migrations at ~12,000 year ago)
- Aleut-Eskimo, Na-Dene, and Amerind Represent Three Migrations

Adapted Greenberg/Szathmáry Scenario
Mitochondrial DNA

Hae III Site Gain = A

T....T....T....T....A....

9bp Deletion = B

T....T....T....T....T....

HinC II Site Loss = C

T....T....T....T....C....

Alu I Site Loss = D

T....T....T....T....C....

MtDNA in Relation to Language Groups

• Patterns of mtDNA data do not fit the expectations of the Greenberg hypothesis

• But what scenario is support?

Interpretations of the mtDNA Evidence

• Shurr et al. (1998); Horai et al. (1993):
  Four migrations corresponding to four haplogroups

• Merriwether et al. (1995); Kolman et al. (1996); Stone and Stoneking (1998) and others:
  Single migration at around 23,000 to 37,000 years ago

Haplogroup X

• Brown et al. (1998)
  Possible separate migration of Eurasians using the Bering Land Bridge

Interpretations of the Y Chromosome Evidence

• Santos et al. (1996)
  Single migration

• Karafet et al. (1999)
  Too early to tell for sure but two migrations work well

Schurr et al. (2002)

Tentatively: Two Migrations

One with mtDNA A,B,C,D and some Y haplotypes

Another with X and other Y haplotypes
Take Home Message

• One or Two Migrations are both reasonable scenarios

• Both the Pacific Coastal route and Mackenzie Passage route are possible

• Initial occupation was definitely pre-Clovis, possibly ~25,000 year ago