Idaho First: How Archaeological Discoveries on the Lower Salmon River Change Our Perspectives on the Peopling of the Americas (Slides)

Loren Davis
Oregon State University
Idaho First: How Archaeological Discoveries in the Lower Salmon River Change our Perspectives on the Peopling of the Americas

Loren G. Davis, PhD
Oregon State University
Late Upper Paleolithic occupation at Cooper’s Ferry, Idaho, USA, ~16,000 years ago

Loren G. Davis¹, David B. Madsen², Lorena Becerra-Valdivia³, Thomas Higham³, David A. Sisson⁴, Sarah M. Skinner¹, Daniel Stueber⁵, Alexander J. Nyers⁶, Amanda Keen-Zeber³, Christina Neudorf⁷, Melissa Cheyney¹, Masami Izuho⁸, Fumie Iizuka⁸,⁹, Samuel R. Burns¹, Clinton W. Epps¹⁰, Samuel C. Willis¹¹, Ian Buvit¹
How and when did humans come to America? What does it all mean?
Raghavan, Maanasa et al. 2015
Genomic Evidence for the Pleistocene and Recent Population History of Native Americans. *Science* 349(6250)
DOI:10.1126/science.aab3884.
Peopling of the Americas Debate

• Traditional model (Clovis First)
  • Initial migration from NE Asia at high latitudes
  • Upper Paleolithic peoples occupy eastern Beringia and move south via interior route
  • Clovis Paleoindian Tradition appears after 13,300 years ago
CLOVIS: 12,750-13,400 yrs ago
Extended Data Figure 1 | Topographic transects. The red and white lines on Fig. 1b mark topographic transects of Charlie Lake and Spring Lake in relation to the four phases of Glacial Lake Peace\textsuperscript{13}. CIC, Cordilleran ice complex; m.a.s.l., metres above sea level.
Heintzman et al. 2016 Bison phylogeography constrains dispersal and viability of the Ice Free Corridor in western Canada. *PNAS* July 19, 2016 113 (29) 8057-8063
Pre-23,000 cal BP
23,000-13,400 cal BP
13,400-12,000 cal BP
<12,000 cal BP

The corridor was closed after ~23,000 until 13,400 years ago. By 13,400 years ago, bison used this route to disperse from the south and by 13,000 years ago bison come down from the north.
Current evidence allows multiple models for the peopling of the Americas.

- Archeological sites, >13 ka
- Archeological sites, 13–10 ka
- Geological/biological samples, 15.7 – 13.3 ka, indicating ice-free and/or vegetated conditions

Glacial ice limits
- (55)
- 13.4 ka
- 14.0 ka
- 15.0 ka

Glacial ice at 14.8 ka
- (48)
Interio Alaska and Yukon Sites
~14,500-14,000

Cooper’s Ferry
~16,000

Gault and Friedkin
~15,000

Clovis Paleoindian Tradition
~13,400-12,750 years ago
What if an interior corridor was open by ~14,800 years ago?

• We should find sites dating to 14,800 years ago and younger south of the continental ice sheets and oldest sites should be in the Interior Corridor.

• If Clovis people used this earlier Interior Corridor, then we might find even earlier Clovis sites there or south of the ice.

• This would keep the Clovis First model alive…

• Excavations at the Gault (and Friedkin) Site in Texas have uncovered cultural materials below a well-defined Clovis layer.

• What did these “Older Than Clovis” artifacts look like?

• Are they proto-Clovis technologies?
Gault Site, TX ~15,000 years old
Friedkin Site, TX
Just when you thought you knew what was going on...

Clovis points date older in the south and youngest in Alaska
Just when you thought you knew what was going on…

Clovis points date older in the south and youngest in Alaska

CLOVIS IS NOT FIRST…We need another model
*age of start of LU3 deposition predicted by Bayesian model

+ = elevation of projectile point

\| = indeterminant upper boundary of feature
Fig. 4. Lithic tools excavated in situ from LU3. (A) Stemmed projectile point haft fragment from LU3 (73-50685; RN 56938). (B) Stemmed projectile point haft fragment from LU3 (73-42800; RN 50948). (C) Blade fragment of projectile point from LU3 (73-62464; RN 59067). (D) Biface preform fragment (73-61085; RN 57401). (E) Biface preform fragment (73-63034; RN 59076). (F) Biface preform fragment (73-61870; RN 58316). (G) Macroblade (73-62953; RN 59385). (H) Biface preform fragment (73-62887; RN 59367). (I) Macroblade (73-60855; RN 57072). Dots show areas with use wear.
Late Glacial B-A YD
Humans at CF ~16,000 years
Fig. 5. Comparison of Cooper's Ferry projectile points with late Pleistocene age Tachikawa-type stemmed points from the Kamishirataki 2 site on Hokkaido, Japan. (A) Stemmed projectile point haft fragment from LU3 (73-60685; RN 56938). (B) Illustration of Japanese Upper Paleolithic stemmed projectile point from the Kamishirataki 2 site [redrawn from (45)]. (C) Blade fragment of projectile point from LU3 (73-62464; RN 59067). (D) Stemmed projectile point haft fragment from LU3 (73-42800; RN 50948). (E) Illustration of Japanese Upper Paleolithic stemmed projectile point from the Kamishirataki 2 site [redrawn from (45)] as one possible comparison for the reconstructed stemmed projectile point shown in (C) and (D). (F) Stemmed projectile point from PFA2 (73-627). (G) Stemmed projectile point from PFA2 (73-628). (H) Stemmed projectile point from PFA2 (73-626). (I to K) Illustrations of Japanese Upper Paleolithic stemmed projectile points from the Kamishirataki 2 site [redrawn from (45)].
Tanged points and other artifacts excavated from the Tachikaru-shinai site, locality A, Hokkaido (after Yoshizaki).
Key Points

• Native peoples of the Americas share genetic heritage with peoples of NE Asia
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• Stemmed projectile points predate Clovis fluted points
Debitage recovered in situ throughout LU3 to a depth of 411.20 masl showing “early to late biface reduction based on the presence of medium to small bifacial percussion flakes and a smaller number of pressure flakes...early-stage bifacial overshot thinning flake discovered in situ at 411.455 masl with a finely faceted bifacial platform and distal termination that removed a square edge from an opposing tool margin.”
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• Conclude that humans migrated into the Americas via a Pacific coastal route
• To find more of this early evidence, we must figure out where DORA exists in modern landscapes; CF is deeply buried and other sites might be too
Research Support

• Bernice Peltier Huber Charitable Trust
• Keystone Archaeological Research Fund
• National Science Foundation
• National Geographic Society
• OSU Archaeology Field School Students and Staff 2009-2018