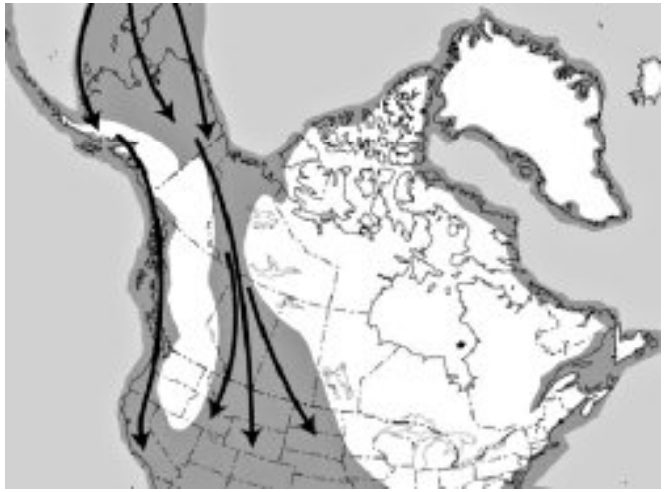
The Paleoindian Period

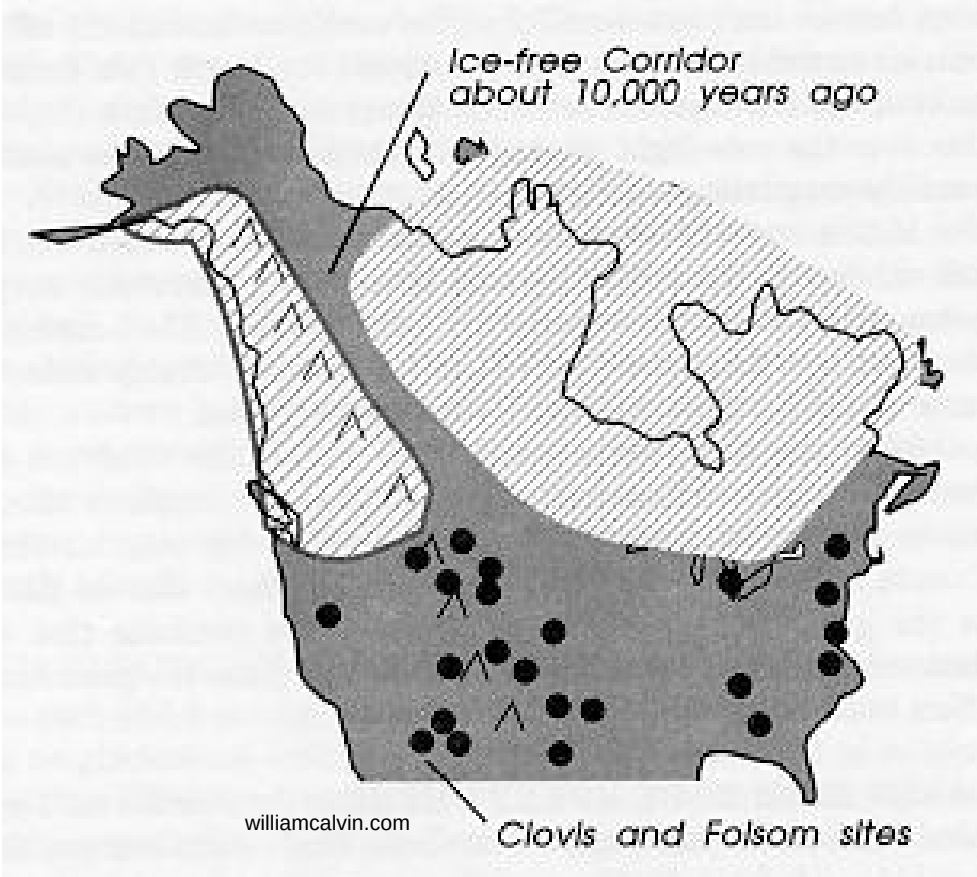
~11,500 to 8,000 years ago

Human migration to North America



www.answersingenesis.org

- Between 17 and 14 kya
- Across Bering Land Bridge
  - Coastal Migration hypothesis
  - Ice-Free Corridor hypothesis
- Arrive during and after Pleistocene extinctions
  - Humans probably not important agents of PE
- Period of extreme climate change



z.about.com/d/archaeology

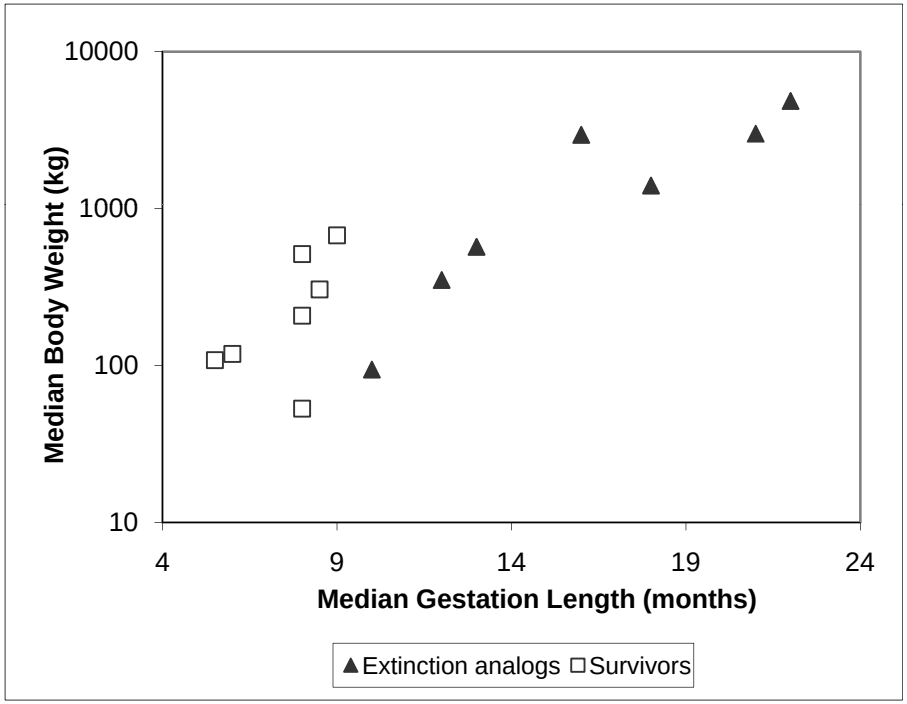
Pleistocene megafauna

- Large-bodied, slow reproducing
- Susceptible to changes in seasonality

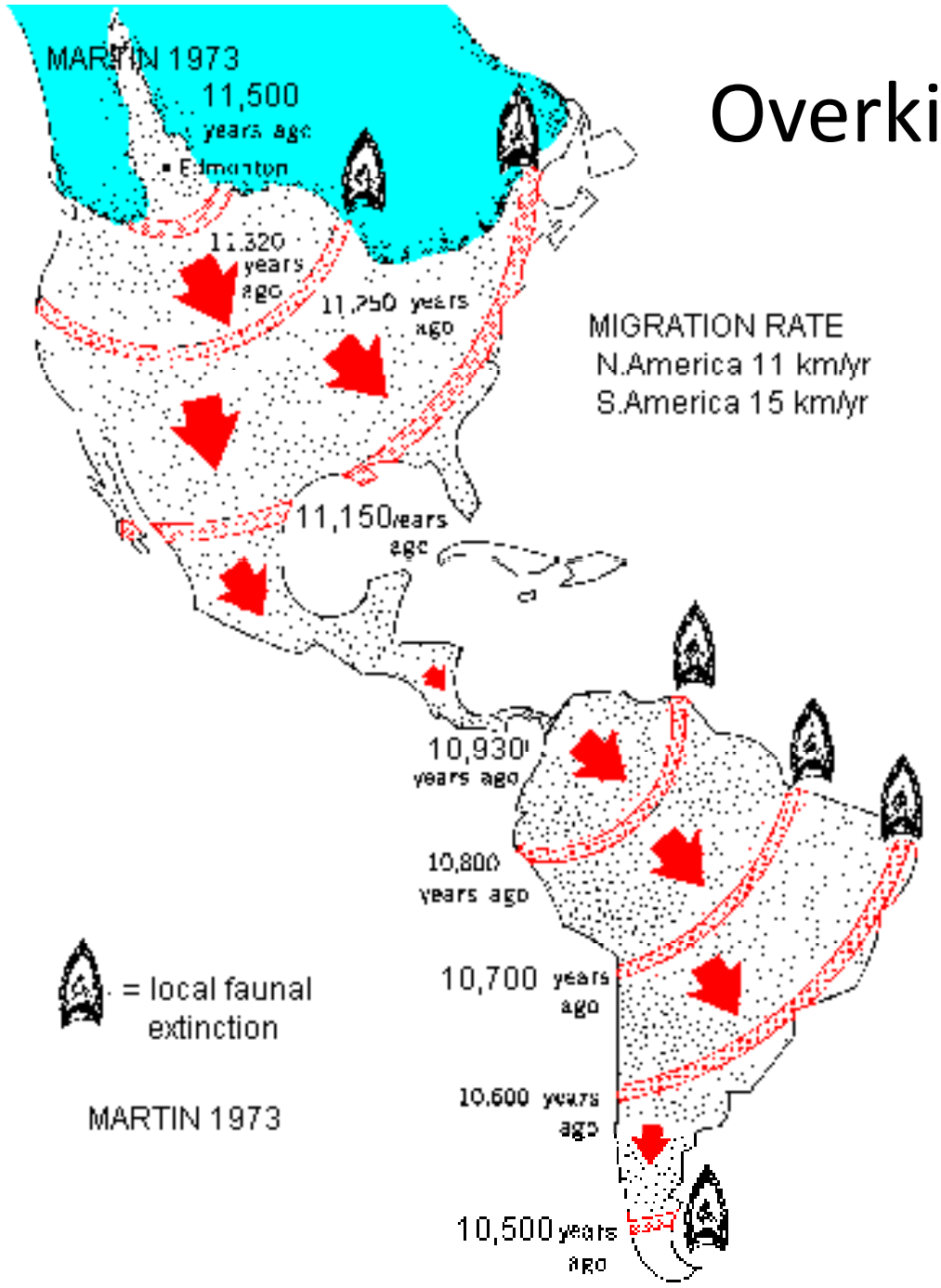
www.wired.com

Modern megaherbivores

Bighorn
Mule deer
Moose
Elk
Pronghorn
Muskox
Bison
Lama
Zebra
Camel
White rhino
Black rhino
Indian elephant
African elephant



Overkill



The "blitzkrieg" model argues that humans caused the extinctions

Little data to support overkill

Plus, it makes no ecological sense

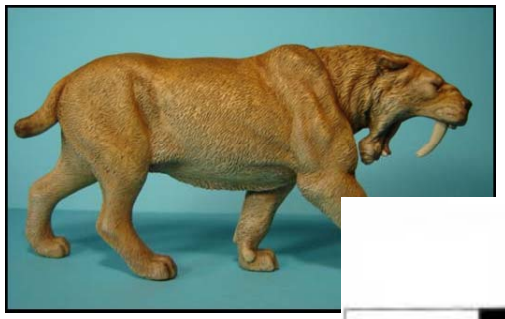
Does not match chronology of human arrival or extinction

Ecologically popular movement!

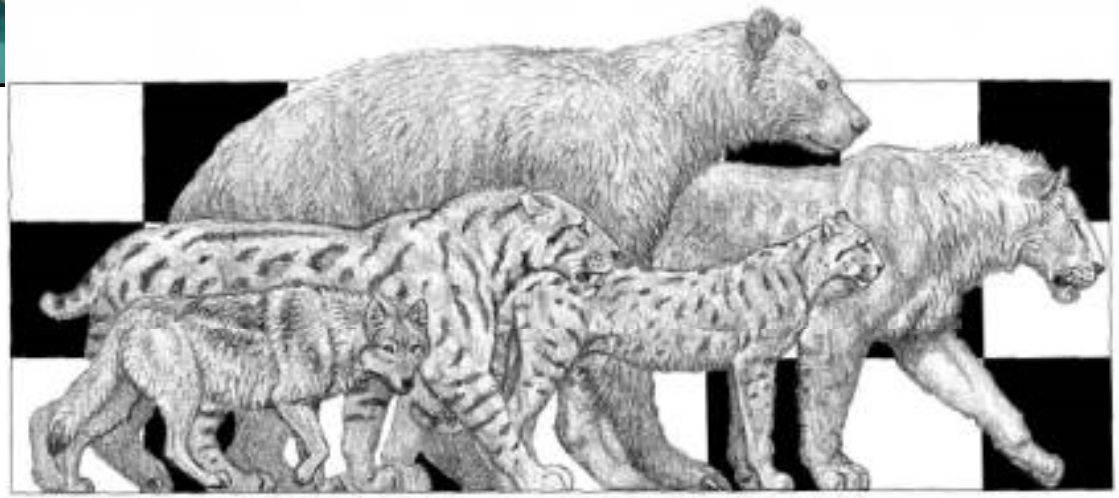
Why not overkill?

- Humans very rare on the landscape
  - Few archaeology sites
- Little evidence of interaction between humans and extinct species (though some)
  - Sites and residues
- Megafauna not “naïve” as argued

Mega-carnivores



thealchemyworks.com



palaeo.gly.bris.ac.uk

de.academic.ru/pictures

Pre-Clovis: Paisley 5 Mile Point Cave

z.about.com/d/archaeology

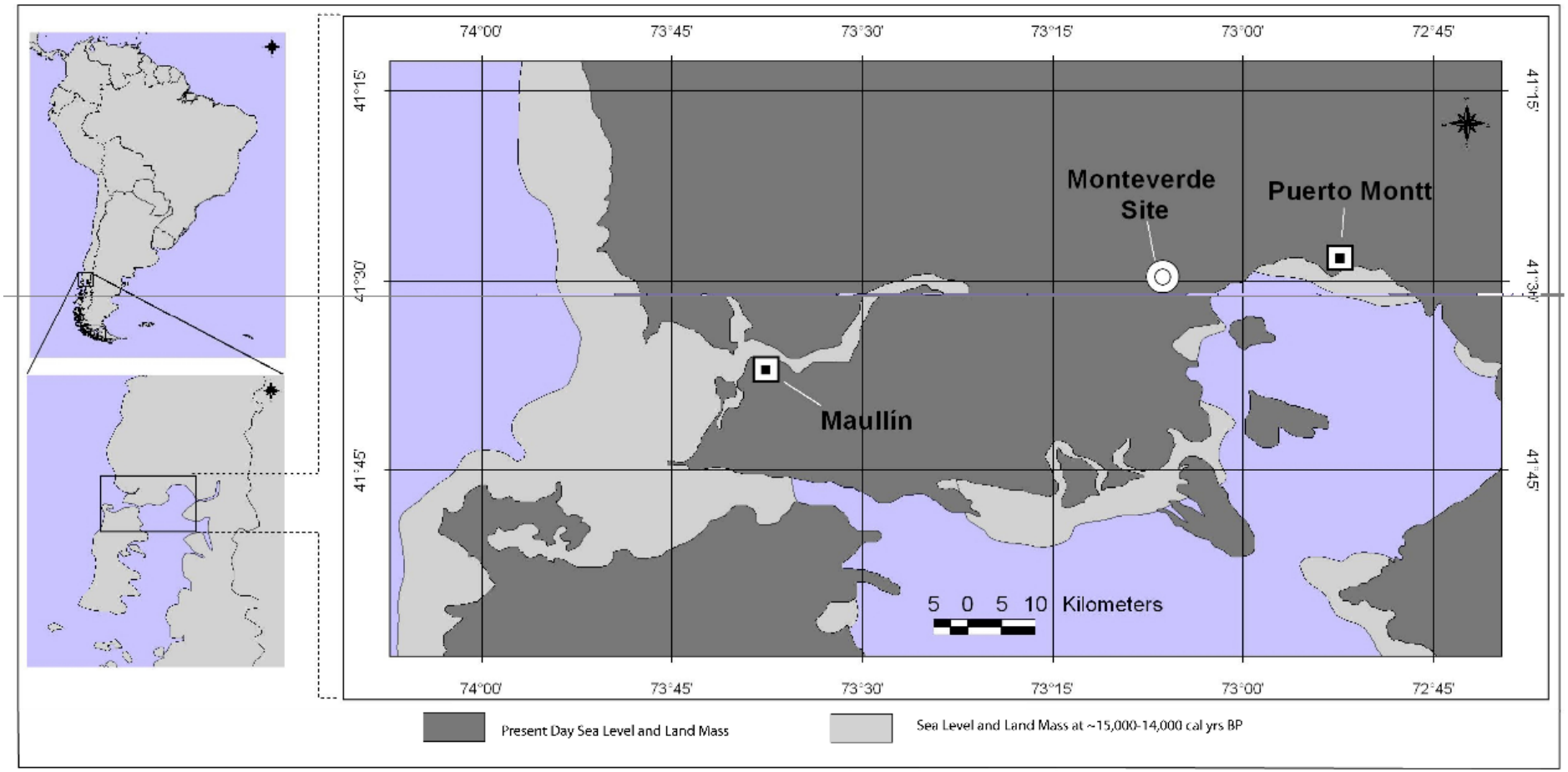
- South central Oregon
- Excellent preservation
  - Bones, perishable items, wooden pegs
  - Human coprolites 12,750 to 14,290 years old
  - This finding is marginally controversial

- Evidence of “pre-Clovis”

Pre-Clovis: Monte Verde

- Southern Chile
- Remains of huts, fire hearths, tools, coprolites
- Megafauna bones and tusks
- Dates to 12,500 years ago

- Not Clovis; way earlier than most sites in North America



archaeology.about.com

www.unl.edu

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A gap in knowledge

- For decades…
- It was thought that Clovis was first
- = big game hunters ≈ overkill
- Spread across much of North America
- Dates roughly 11,500 to 10,800
- We do not know what bridges pre-Clovis to Clovis
- What does this tell us about archaeology?

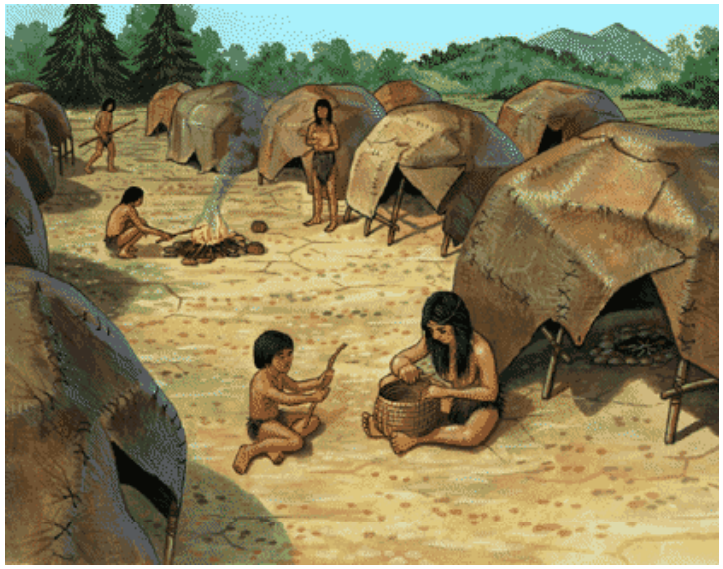
homepage.mac.com

Jumping to conclusions

- We simply found and dated early Clovis before any pre-Clovis sites
- Combined with appeal of Overkill, Clovis took on a mind of its own (e.g., Overkill)
- A case of discovery preempting actual knowledge
- We wrote a story with the information we had

Re-writing the story

- Pre-Clovis …
- Makes us re-write that story
- Humans were here early



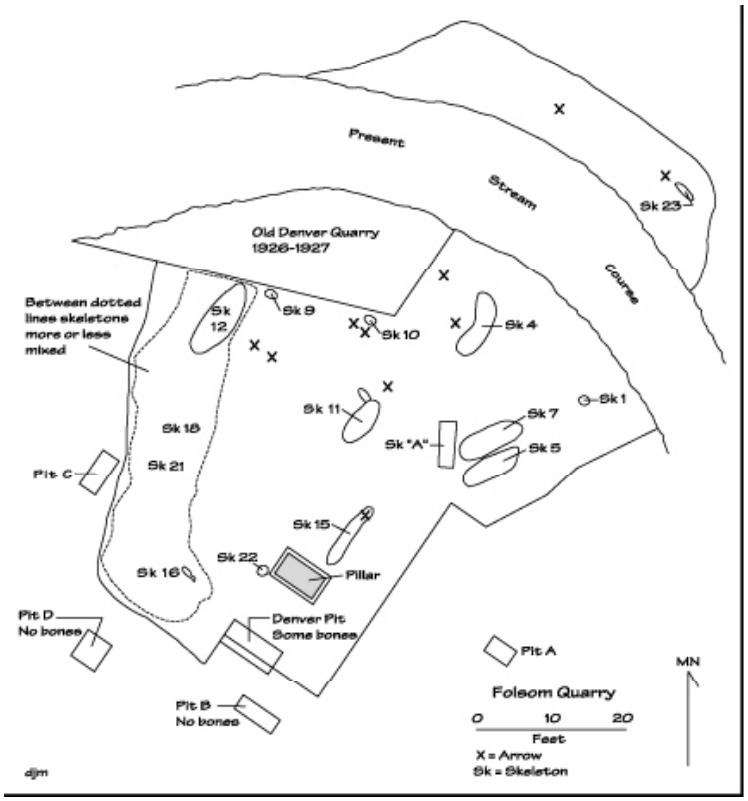
www.filo.uba.ar

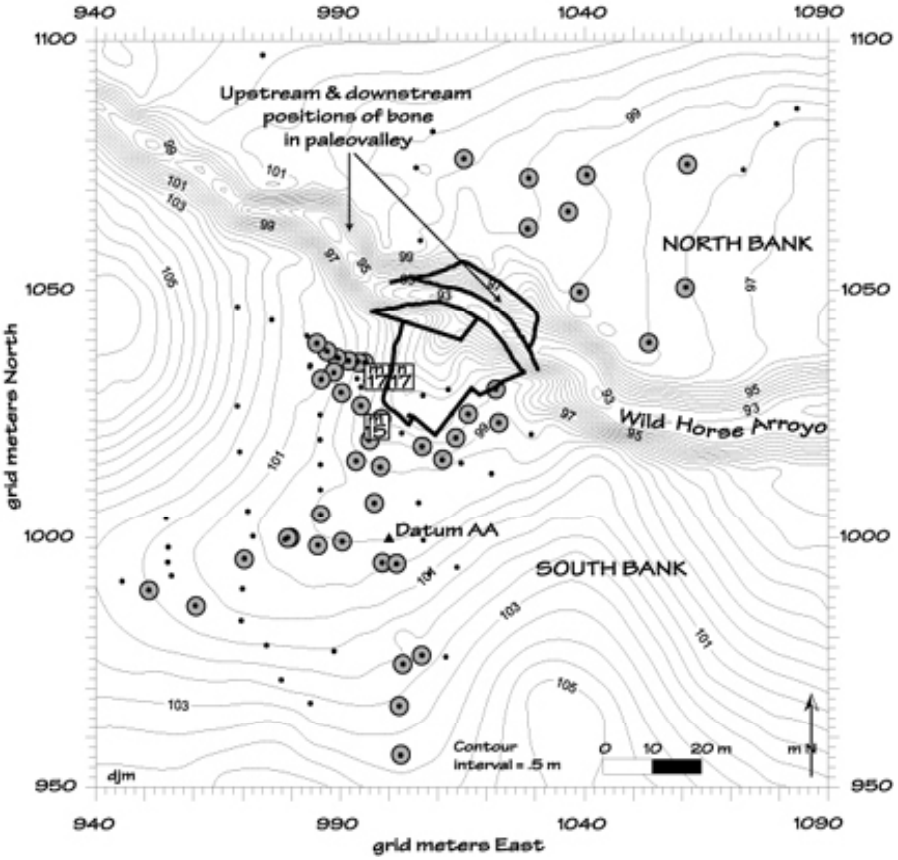
- They were not necessarily big game hunters
- How did the Clovis story get written in the first place?

The Folsom Discovery


en.wikipedia.org

- Found in 1908 by George McJunkin in Wild Horse Arroyo, New Mexico
- Excavated in 1926 by Jesse Figgins
- A fluted point to be name after Folsom was found between two extinct bison ribs
  - Principle of Association





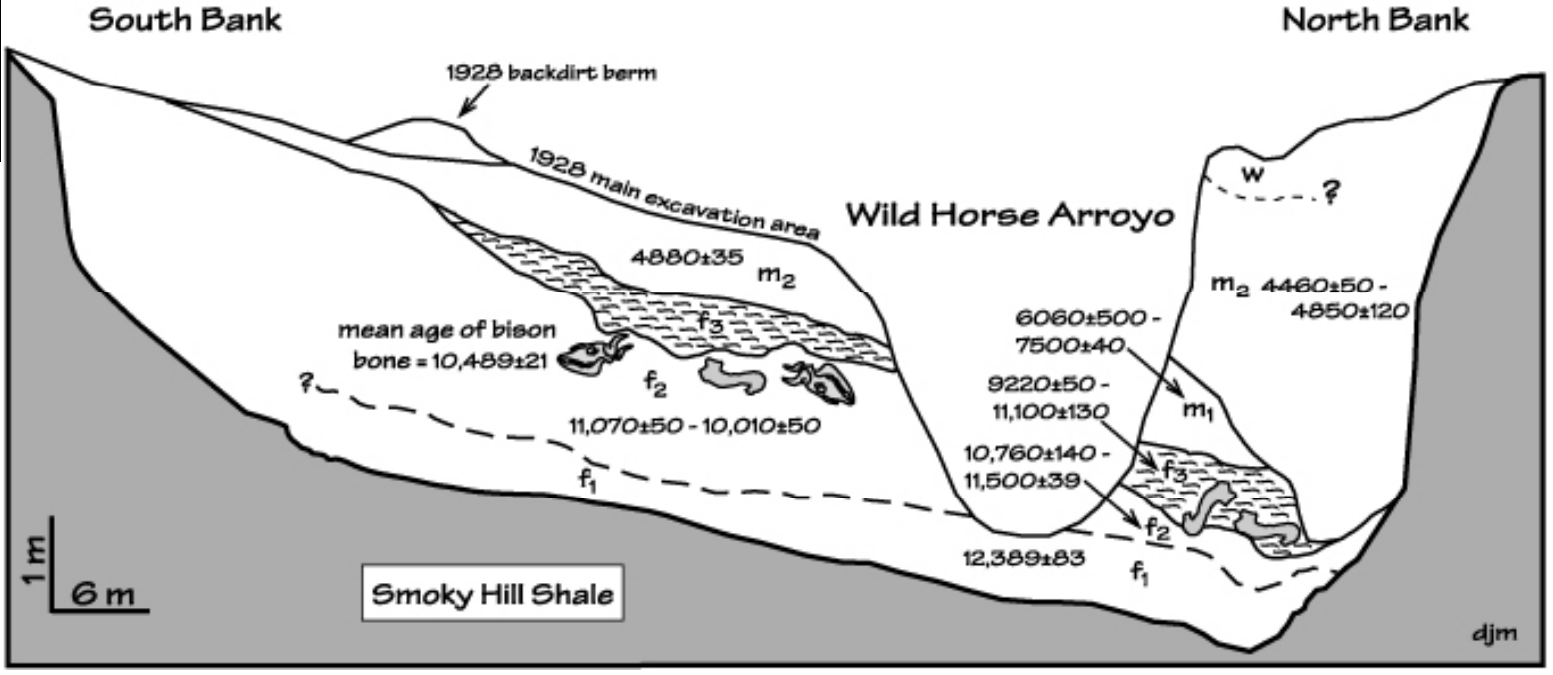
smu.edu/anthro/QUEST

www.gustavslibrary.com

smu.edu/anthro/QUEST

lamar.colostate.edu/~lctodd

http://smu.edu/anthro/QUEST/Projects/Folsom.htm



smu.edu/anthro/QUEST

Folsom: summary

- At Folsom a cow-calf herd of 32 individuals was slaughtered by people near a water hole
- It was a healthy herd, with an age structure of a living herd
- The individuals died together from human predation
- This site and others led to the conclusion that Paleoindian people were big game hunters

See summary in Meltzer 2006

Blackwater Draw, New Mexico

- Discovered in 1929
- Excavated in 1932
- First example of Clovis point
- First Clovis point associated w/ mammoth (= kill?)
- Dates roughly to 11,000 ya
- Now owned by ENMSU

farm2.static.flickr.com

Naco Mammoth Kill Site

en.wikipedia.org

en.wikipedia.org

Naco

www.argonaut.arizona.edu

- Excavated by Arizona State Museum in 1951-52
  - Emil Haury was the lead archaeologist

- Eight Clovis points associated with a single mammoth = a kill site

- First example of a mammoth kill site

- Columbia mammoth
  - 13 feet tall, 11 tons

en.wikipedia.org

Lehner Site

en.wikipedia.org

- Excavated in 1955-56 by Haury
- Dates to roughly 11,000 years ago
- 13 Clovis points; 12 immature mammoths, other species
- Fire hearths as well
- Assumed to represent a kill, but may indicate scavenging

en.wikipedia.org

Summary of Paleoindian

- Big game hunting certainly took place
- The Southwest is an important record of such
- But, was it all that took place
- Association is critical, as is dating
- Taphonomy is also critical
  - Plant remains, small mammals remains may not have preserved
  - Paleoindian sites are rare; not well sampled

Taphonomy

- Taphonomy answers the question “what are these bones doing here?” (Now)

  – How did they get to where archaeologists find them?

  = the study of processes that influence bones after an organism dies to when the archaeologist finds them.

“Taphonomy is a bad dog.”

Taphonomy

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Taphos = “burial”

Nomos = “law” (Greek)

The science of the laws of embedding or burial.

Has come to mean “the study of all processes influencing bones from their death to their recovery by researchers or investigators.”

Paraphrased from Lyman (1994)

Important Considerations

1 We work with “samples.”

2 Those samples have taphonomic histories.

3 Those samples are not “biased.”

4 Like all samples they have a certain utility.

Photo of fragmented white-tailed deer remains from the Koster Site, Illinois

Taphonomic Histories

Time

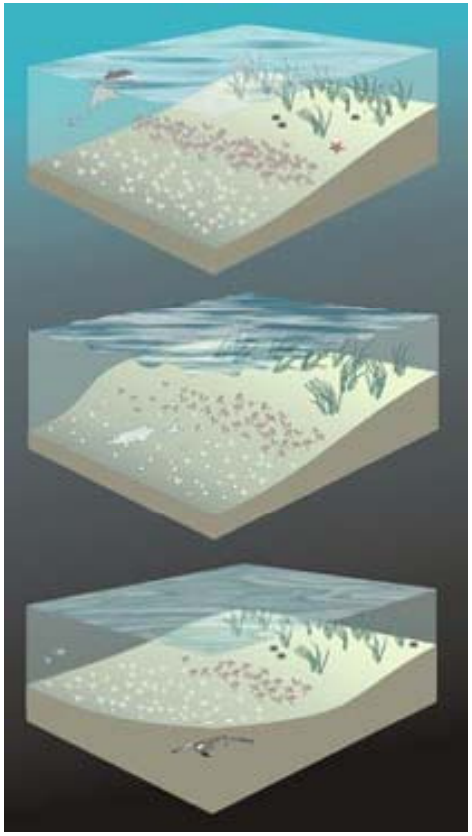
Life assemblage = live animal communities

Death assemblage = available carcasses

Deposited assemblage = carcasses that come to rest

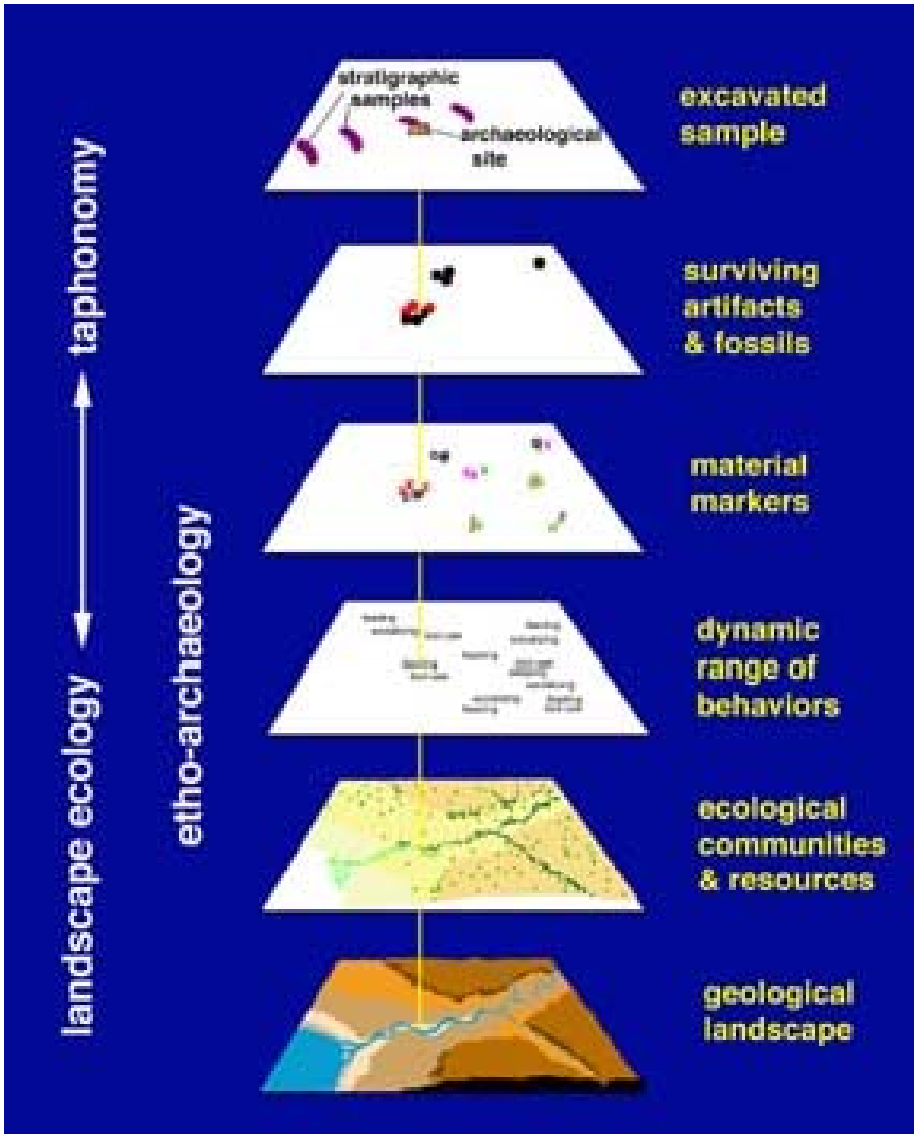
Fossil assemblage = portions that survive to be recovered

Sample assemblage = portions that are recovered



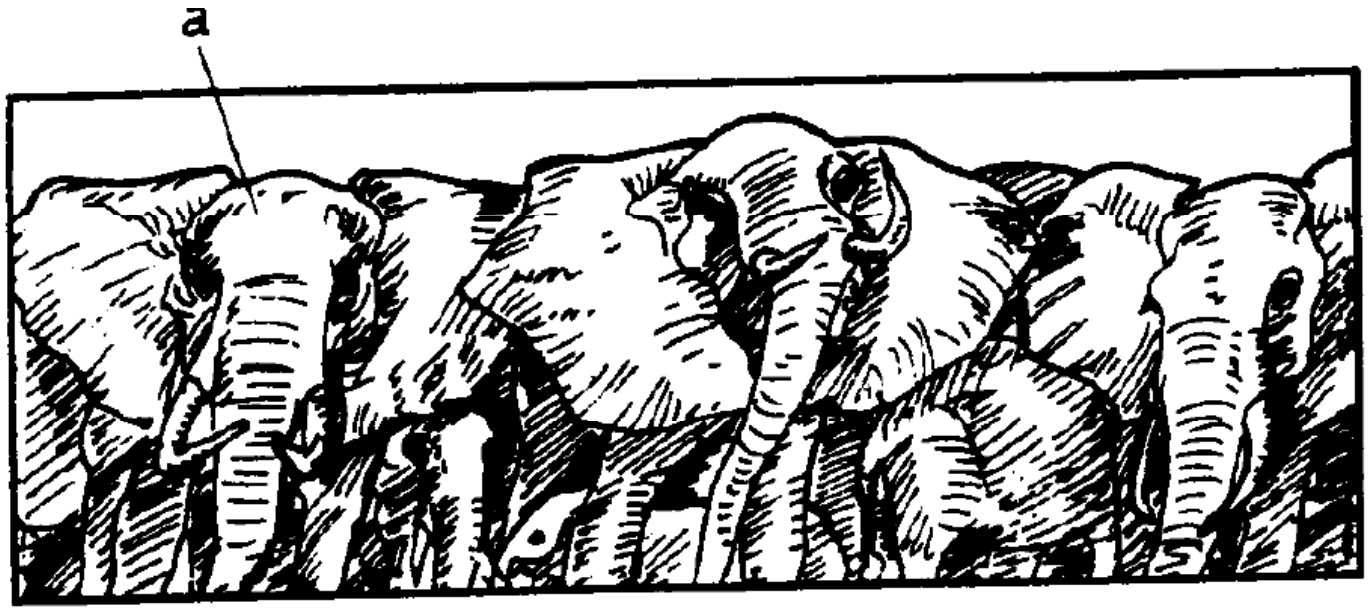
www.emesekazar.com

Paraphrased from Klein and Cruz-Uribe (198



www.indiana.edu

The Life Assemblage



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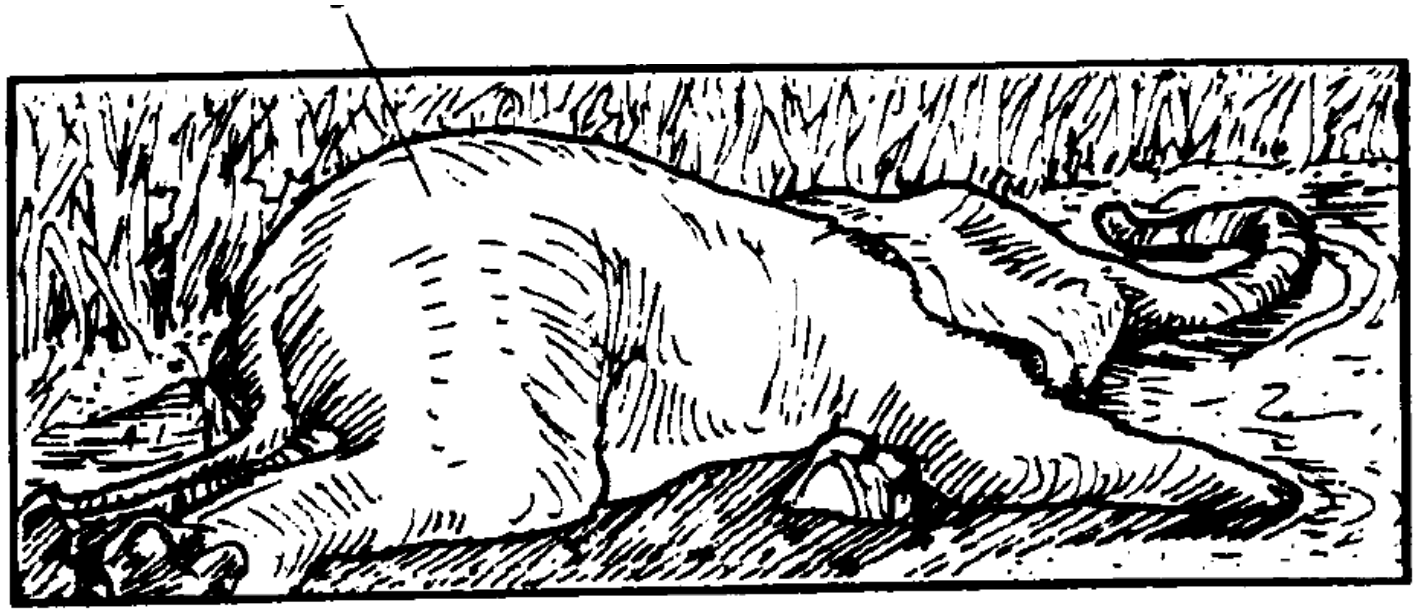
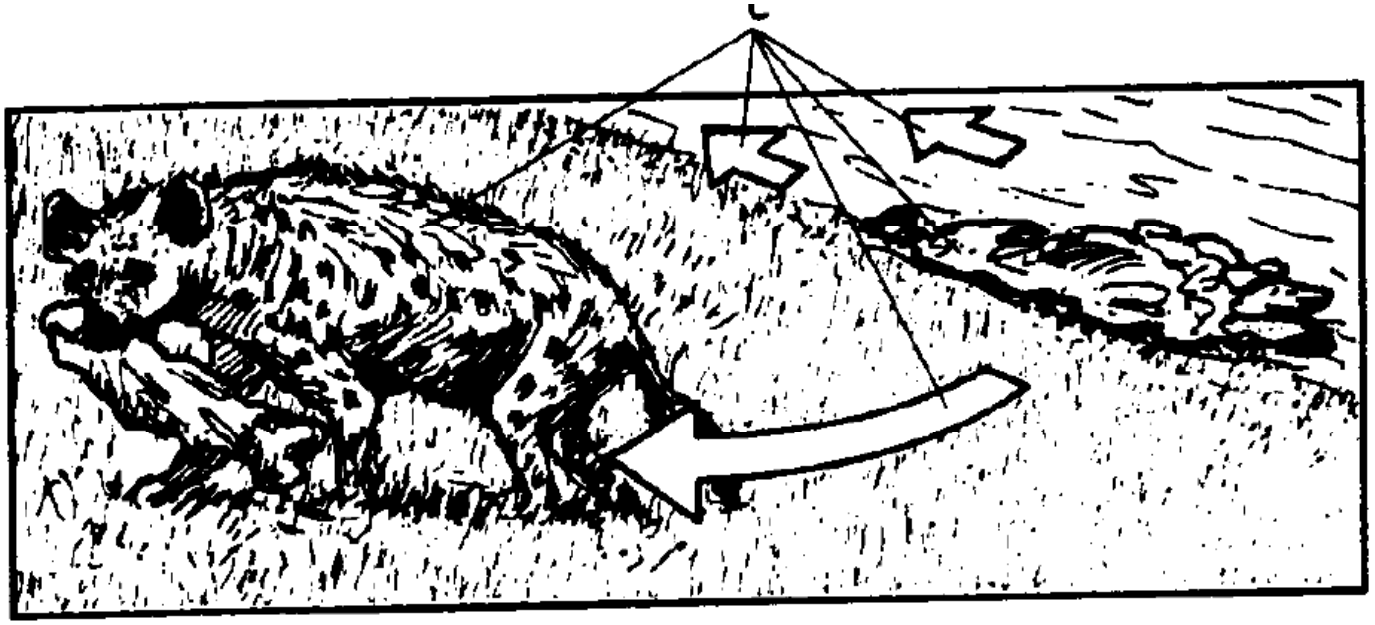
The Death Assemblage, part I



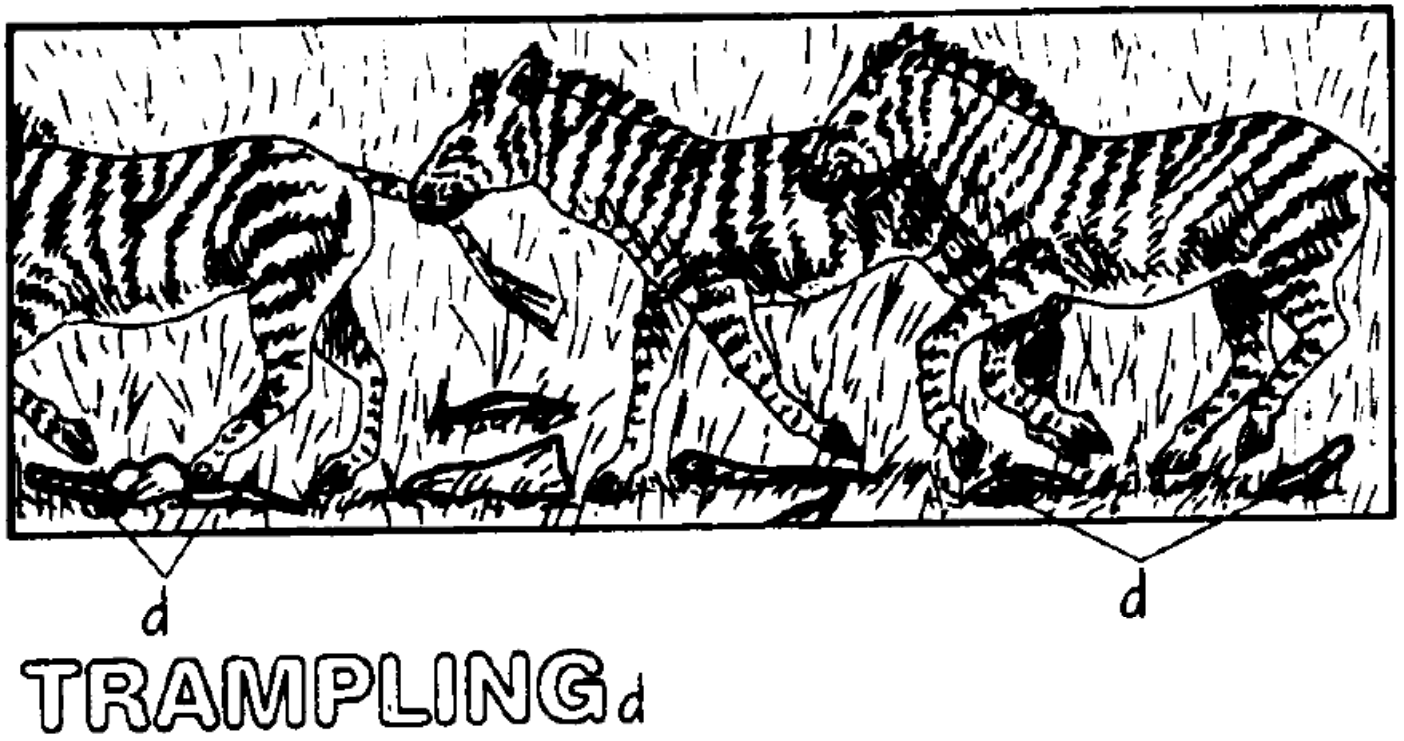
DEATH AND
DECOMPOSITION

The Death Assemblage, part II

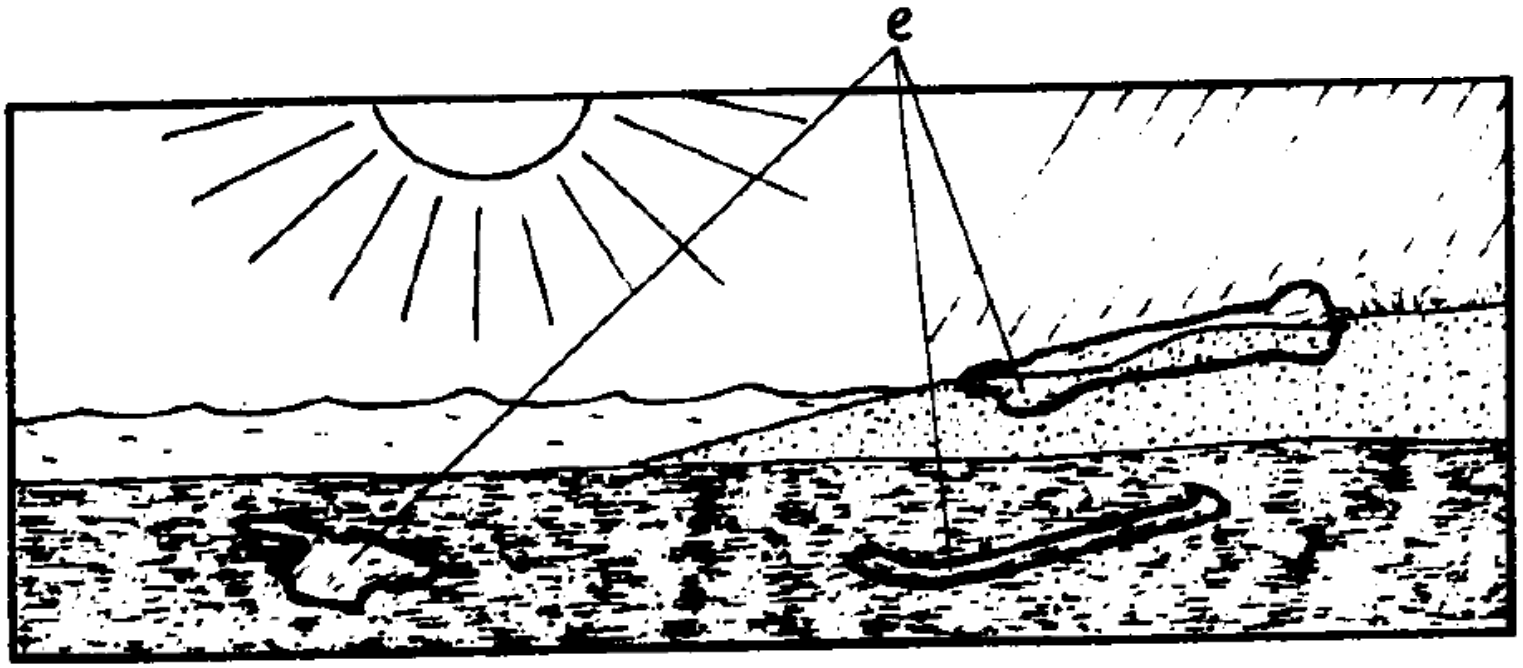


TRANSPORT.

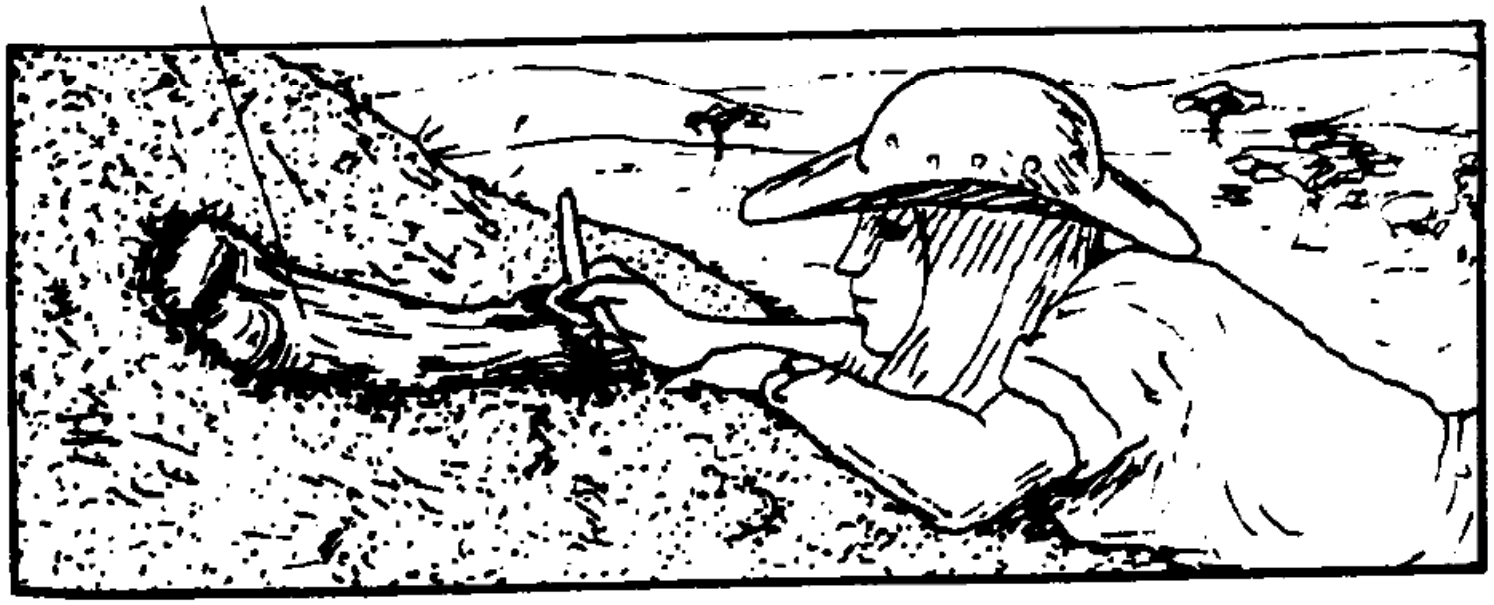
The Death Assemblage, part III



The Deposited Assemblage



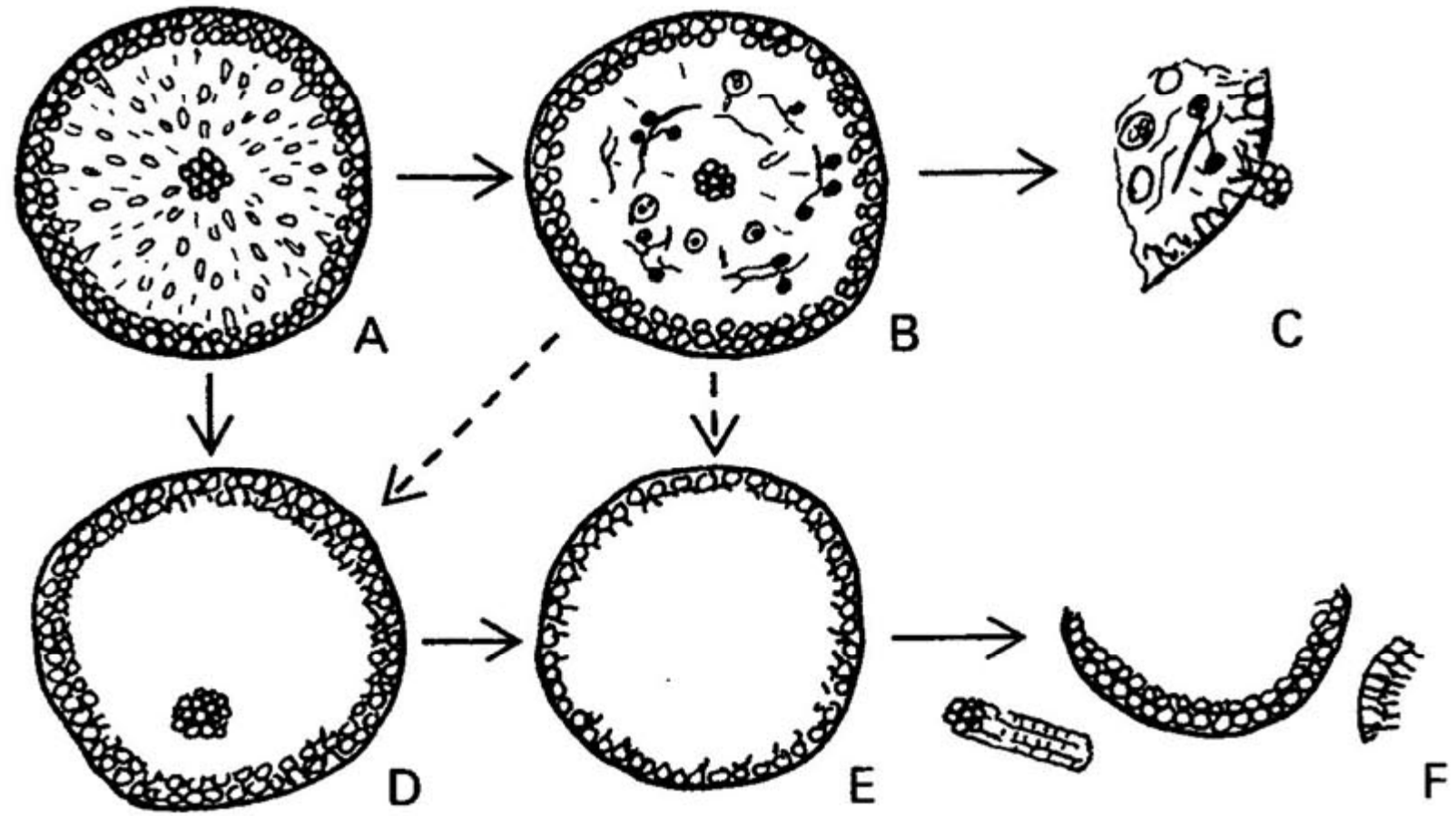
The Sample Assemblage, part I



EROSION AND EXCAVATION,

The Sample Assemblage, part II

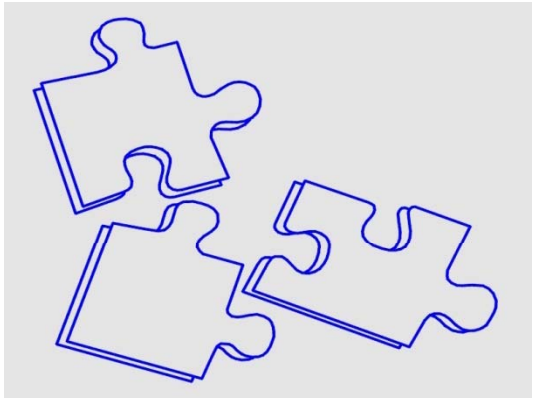
PLANT DEGRADATION



Preservation

- It's like a puzzle with missing pieces and no flat surface to work on
  - Provides archaeology with its sense of intrigue and mystery

- Those well-preserved rare gems must be carefully recovered or information is lost
  - There are no opportunities to re-sample



www.peninsulautism.org

Archaeology in the early to mid-Holocene

- Because of taphonomic/preservation issues
  - We have an incomplete record of culture early in the SW
  - The Archaic period is probably a better record than the Paleoindian period