Notes on the Reality of Archaeological Data: Two Zooarchaeological Case Studies from the Northern Rio Grande Region of New Mexico

Jonathan Dombrosky
Anthropology, College of Public Affairs and Community Service

Dr. Steve Wolverton
Geography, College of Arts and Sciences
Where are we going?

- What is Archaeology?
- What is Zooarchaeology?
- What is statistical scale?
- What is taphonomy?
- Why should we care?
- What does this look like?

Click here to play Archaeology!

http://www.twmuseums.org.uk/schools/guesswhat/archaeology/archaeology.jpg
What is archaeology?

• The study of material culture
• It is the study of stuff that makes us, us
• Space and time
• Old Archaeology?
• New Archaeology? (Dunnell 1971)
  • Proximate v. ultimate causation
• The study of the extension of our phenotype (O’Brien and Lyman 2000)
What is zooarchaeology?

- Study of animal bones
- Diet
  - What did people eat?
  - How much of it did they eat?
  - How did people eat it?
- Environmental reconstruction
  - What was the environment like?
  - Biogeography
  - Conservation biology
What is Taphonomy?

- Taphonomy is a bad dog (Stiner 1994)
- How remains of animals transition from the biosphere to the lithosphere (Efermov 1940)
- The study of the transition, in all details, of organics from the biosphere into the lithosphere or geologic record (Lyman 1994)
- It is the study of how this stuff got here
What is statistical scale?

• Ratio
  • 0 point
  • Exactly how much more or less

• Interval
  • 0 point arbitrary
  • More or less is arbitrary

• Ordinal
  • Greater than or less than
  • How much is not known

• Nominal
  • Presence/absences
ORDINAL SCALE AT BEST!

(Grayson 1981, 1984)
Why should we care?

- The difference between story telling and scientific story telling
- The difference between your ability to argue and empirical evidence
- Makes archaeology hard
- Dissatisfying
Northern Rio Grande region: Tsama and Ponsipa

- Southwest United States
- New Mexico
- 1300 to 1600AD
- Collapse of Mesa Verde
- Population growth in the Northern Rio Grande Region

What does a taphonomic analysis look like?

• How to argue good preservation
• Accumulation
  • Canid or Human?
• (Wolverton et al. 2008)
• \( \rho = .90, p < .01 \)
Mortality Patterns

- Age structure (Stiner 1994)
- Lumped all medium sized mammals together
- All right side proximal long bones
- U-Shaped Mortality
- Cursorial

Diagram:
- X-axis: Age Class
- Y-axis: Number
- Graph shows a U-shaped pattern with labels for Unfused, Just Fused, and Fused.
Acknowledgments

- Dr. Steve Wolverton
- Dr. Lisa Nagaoka
- Dr. Susan Brown Eve
- The UNT Honors College
- Amy Hoffman
- Christy Winstead
References cited


