

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

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<http://www.twmuseums.org.uk/schools/guesswhat/archaeology/archaeology.jpg>

## 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?



[http://www.empireonline.com/images/image\\_index/original/44619.jpg](http://www.empireonline.com/images/image_index/original/44619.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)



sheep-pile-head-on.jpg  
[headlandarchaeology.wordpress.com](http://headlandarchaeology.wordpress.com)

## 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!**

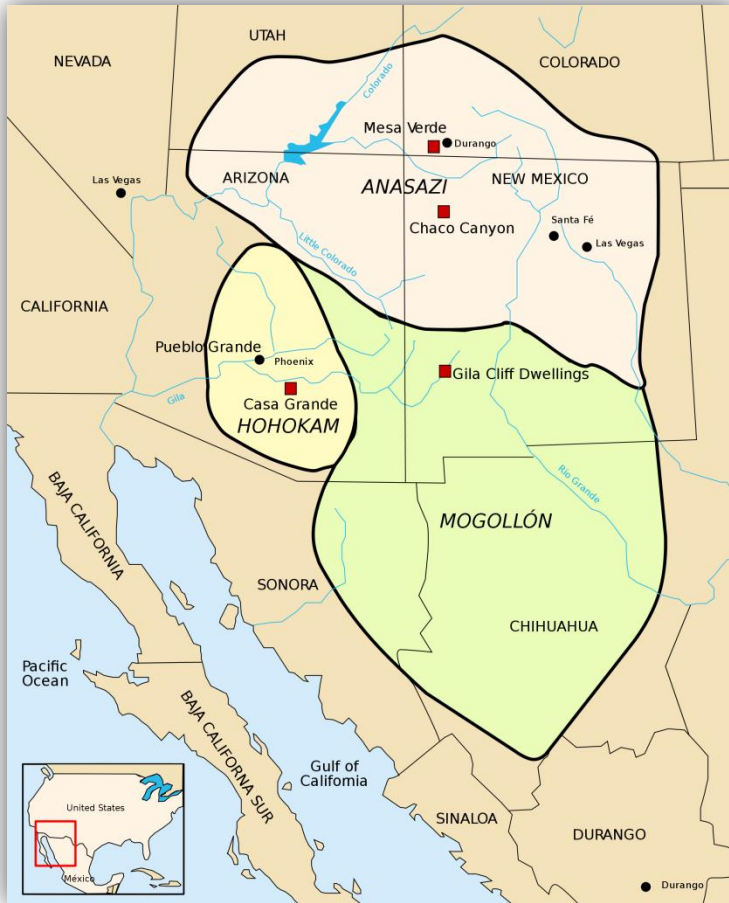
(Grayson 1981, 1984)



## 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

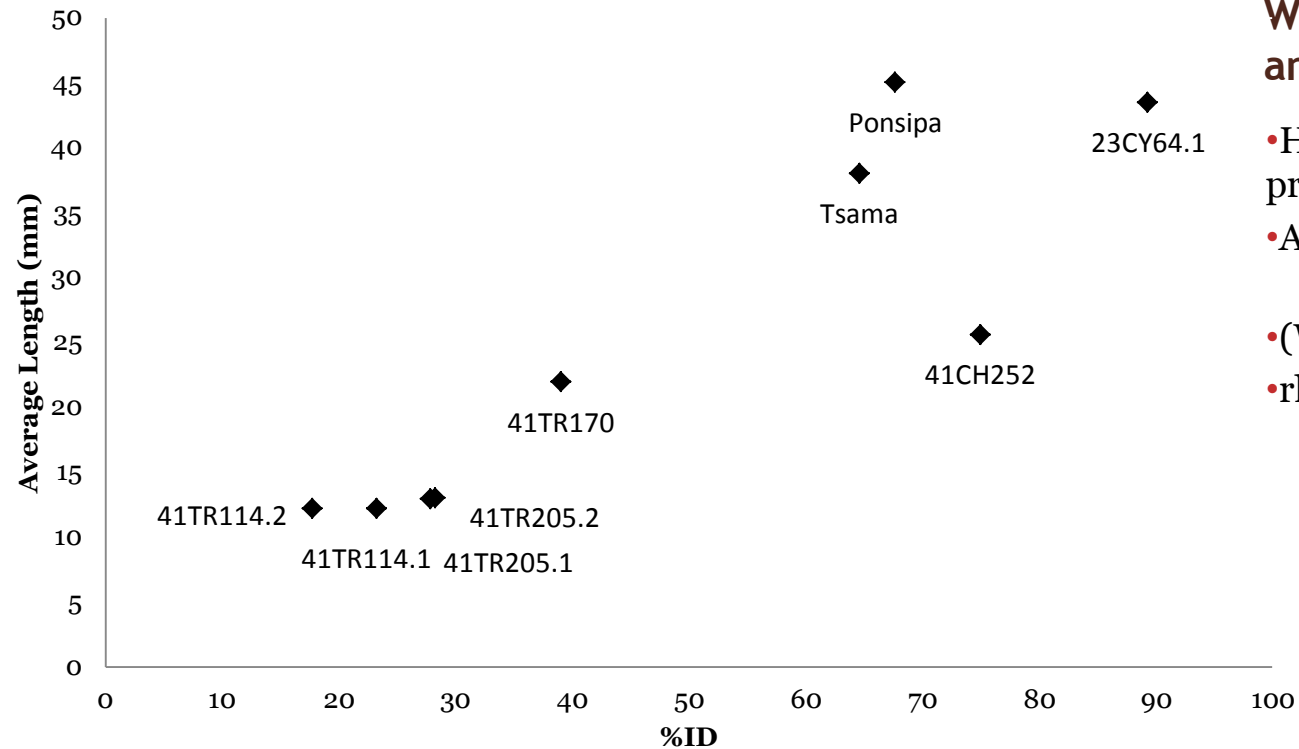




<http://en.wikipedia.org/wiki/File:Anasazi-en.svg>

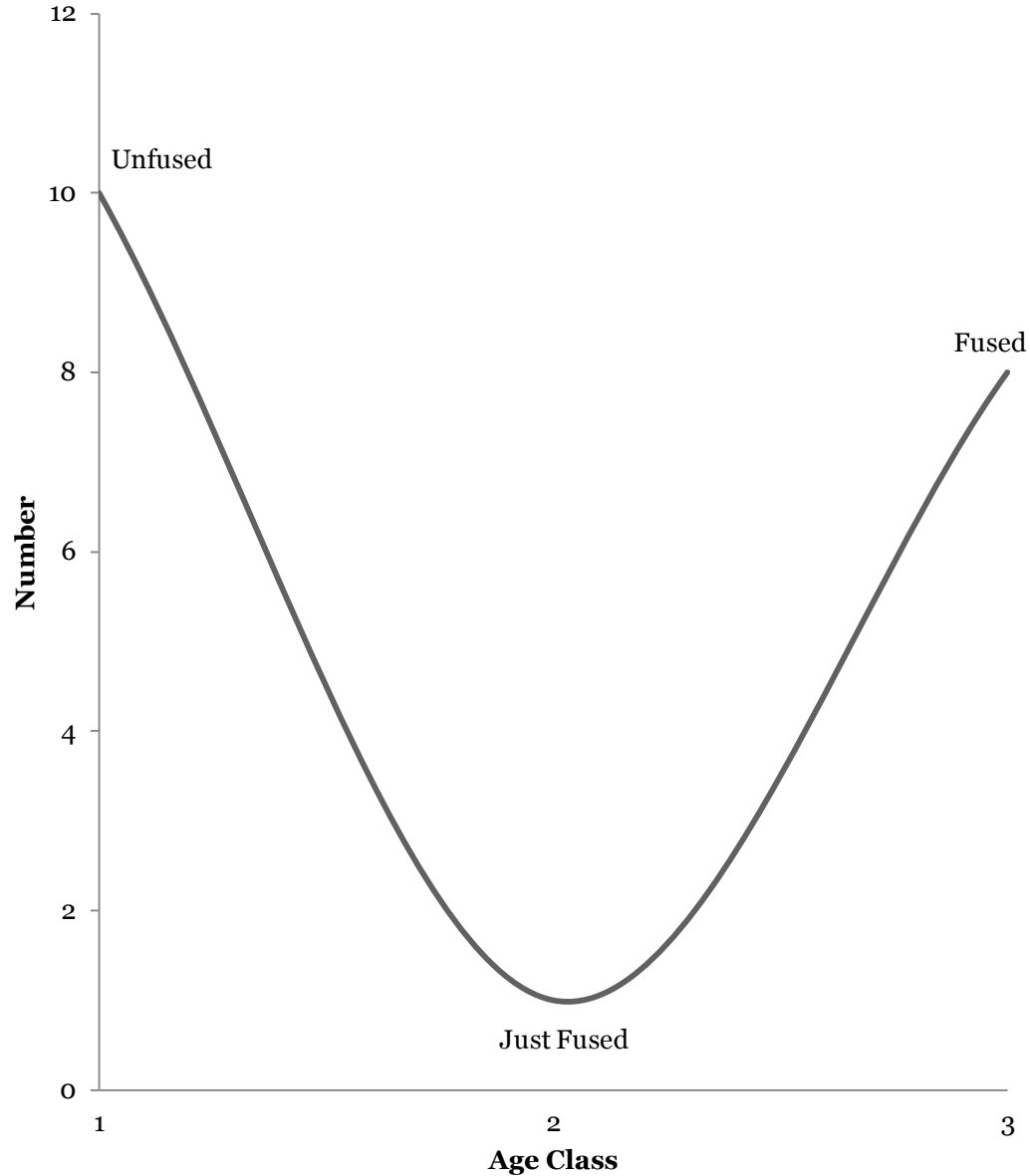
## Northern Rio Grande region: Tsama and Ponsipa

- 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

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