PEOPLES AND ROCK ART OF THE COSO REGION

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Topics

- Introduction to the Coso district
- Local climates and cultures through time
- Coso rock art examples
- Rock art study and interpretation
- "Discovery" and stewardship of Coso
- Resources at Museum Store and Library
The Coso Rock Art District
National Historic Landmark

• Most extensive petroglyph field in the western hemisphere
• Created on boulders and canyon walls in the Coso Mountain Range, Inyo County, California
• Located on the Naval Air Weapons Station, China Lake
The Coso Rock Art District
National Historic Landmark
Coso Rock Art
Major Concentrations

- Navy Lands – National Landmark
  - Renegade Canyon
    - Upper
    - Lower ("Little Pet")
  - Petroglyph Canyon ("Big Pet")
  - Sheep Canyon
  - Black Canyon
  - Dead-end Canyon
  - Many smaller sites

- Private Lands
  - Little Lake Ranch

Only Navy site open for public tours
Annual Museum tours
Local Cultures –
Native American Occupation

- Earliest indications are Clovis, ~ 13,400 ya
- No credible data for pre-Clovis (aka “Early Man”)
- Language maps of California suggest many population movements throughout prehistory
- Current local groups are Shoshonean:
  - Koso (or Panamint) Shoshone in Coso District
  - Owens Valley Paiute in Owens Valley
  - Kawaiisu in southern Sierra, IWV, and eastward
  - Tubatalabal in Sierra Nevada and Kern River Valley
Local Cultures – Hunter-Gatherer Lifeways

- Desert-mountain pattern
  - Highly mobile seasonal round
  - People went to the resources
- Wetlands pattern
  - Tethered to wetlands which were rich in resources
  - Less frequent moves
- Both patterns were practiced in this area at various times
- Desert-mountain pattern predominated locally in last 1000 years
Local Cultures –
Typical Desert-Mountain Pattern

• Moved systematically to harvest resources
  • Winter villages near water sources
  • Spring/summer in uplands for greens/seeds
  • Fall in pinyon zone
  • Return to winter villages

• Bulk of dietary calories from plant foods
• Hunted large and small game, fish, insects
• Complex artistic and social life
• Not an easy lifeway, but successful for millennia
Local Cultures –
Kawaiisu Winter Village Scene
Local Cultures – Technology

- Obsidian/chert/basalt used for cutting tools
- Ground stone tools for food preparation
- High-quality basketry and cordage
- Clothing of woven fiber, skins, fur
- Pottery appears very late, poor quality
- Hunting weapons: atlatl/dart, bow/arrow
Local Cultures – Atlatl and Dart

- Atlatl adds mechanical advantage in throwing weapon
  - Typically about 20” long
- Atlatl gives ~40% increase in velocity
- Projectile (dart) approx 45 - 60” long.
  - Oversize arrow
  - Composite construction
Local Cultures –
How Old is the Atlatl?

- Atlatl parts ~9100 ya at Buena Vista Lake south of Bakersfield
- Intact atlatl > 8000 ya at Nicholas Cave, Nevada (26WA197)
- Atlatls probable for Paleoindian times (>10,000 ya)
  - Micro-fracture studies of Clovis points
Local Cultures – Atlatl Depictions in Coso

Type 1 (without finger-grips), 75% of total.

Type 2 (with single finger-grips), 21% of total.

Type 3 (with double finger-grips), 4% of total.

From Grant, Baird, and Pringle, 1968
Local Cultures – Archery

- Introduction at Rose Spring dated to 1600 ± 200 ya
- More effective than atlatl and dart – can be employed from a crouch
- First bows probably “self-bows”
  - Simple juniper wood stave, strung
  - Composite arrows scaled down from darts
  - Rose Spring and Eastgate points, scaled down from Elko dart points
Local Cultures – Shoshonean Bow (~900 ya)

- Compound recurved, sinew-backed
  - Draw weight 45 – 60 lb
- Solid arrows with Desert series points
- 2X velocity over atlatl and dart
Local Cultures –
Coso Obsidian Production and Trade

• Major obsidian sources in Coso volcanic field
  • Sugarloaf Mountain
  • West Sugarloaf
  • West Cactus Peak
  • Joshua Ridge

• Obsidian quarried >10K yrs
  • Traded to central and coastal California for marine shell beads
  • Santa Rosa Island 11,200 ya
  • Peak about 3000 - 2000 ya
  • Production and trade ended about 700 ya
Climate and Cultures – Pleistocene

- Warming and drying trend since last glacial maximum
- Pleistocene, > 20,000 ya
  - Climate cool and moist, Sierra Nevada glaciated
  - Lake chains
- Mega-fauna present
- No definite evidence of human occupation
Climate and Cultures – Paleoindian Period, ca 14,000 ya

- Climate warmer and drier, glaciers gone
- Human occupation in Cosos, probably hunter-gatherers

- Characteristic points and tools
  - Great Basin Concave Based
  - Great Basin Stemmed
  - Crescents
  - Atlatl

- Rock art
  - Abstract
  - Crude sheep
Climate and Cultures – Pinto Period, ca 6,000 ya

- Altithermal, generally hotter and dryer.
- Deserts mostly unoccupied
- Coso uplands occupied as refuges

- Hunting with the atlatl and dart
  - Pinto points
  - Gypsum Cave points

- Rock art
  - Atlatl
  - Patterned Body Anthropomorph

- Image of a desert landscape
Climate and Cultures – Newberry Period, ca 4,000 ya

- Basketmaker II in Southwest
- Wetter climate (Neo-glacial)
- Proto-Shoshonean influx (?)
- Population growth, pressure on resources

Intensive hunting of bighorn sheep by atlatl and dart
- Elko points
- Humboldt points

- Rock art:
  - Coso sheep
  - PBA
Climate and Cultures – Haiwee Period, ca 1,600 ya

- Variable climate
- Archery introduced
- Ended by extreme drought

- Hunting with self-bow
  - Eastgate points
  - Rose Spring points

- Rock art
  - Archery
  - Coso sheep
Climate and Cultures – Marana Period, <600 ya

- Climate similar to today
- Intensive piñon harvesting
- Some localized horticulture
- Ended by Euro-American contact ca. 1860

- Hunting with compound bow
  - Desert Side-Notched
  - Cottonwood triangular

- Rock art
  - Scratched
  - Proto-historic pecked
Climate and Cultures –
Historic Period, post-1860

• Euro-American incursion
  • Ranching (1860), mining (1870), homesteading (1900)
  • China Lake Navy Base established 1943 (WWII)
    • Euro-American and Native American occupants removed for safety
    • Navy continues management and stewardship

• Native lifeways heavily impacted
  • Seasonal round blocked
  • Traditional practices essentially ended
  • Euro-American ways adopted
Coso Rock Art Portfolio –
Lower Renegade Canyon ("Little Pet")
Coso Rock Art Portfolio – Lower Renegade Canyon ("Little Pet")
Coso Rock Art Portfolio – Lower Renegade Canyon (“Little Pet”)
Coso Rock Art Portfolio –
Upper Renegade Canyon
Coso Rock Art Portfolio – Petroglyph Canyon ("Big Pet")
Coso Rock Art Portfolio – Petroglyph Canyon (“Big Pet”)
Coso Rock Art Portfolio – Sheep Canyon
Coso Rock Art Portfolio – Sheep Canyon
Coso Rock Art Portfolio – Upper Dead-End Canyon
Coso Rock Art Portfolio – Upper Dead-End Canyon
Coso Rock Art Portfolio – Upper Dead-End Canyon
Coso Rock Art Portfolio – Coso Military Targets Range
Coso Rock Art Portfolio – Little Lake Ranch
Coso Rock Art Portfolio – Little Lake Ranch Pictographs

What you see

Dstretch enhanced
Coso Rock Art Portfolio – Motifs

• Coso rock art overwhelmingly representational
  • 60 - 75% in the canyons, less at habitation sites
  • Mojave Desert and Great Basin art more abstract
• Coso region also contains images typical of other areas

Fremont

Puebloan

Many cultures
Rock Art Creation – How are Petroglyphs Made?

- Dark manganese patina ("desert varnish") develops on rock by bacterial action on dust with sunlight and water
- Images made by removing the varnish so the lighter rock shows through
- Four techniques recognized
  - Pecking – common in Cosos
  - Abrading – common in Cosos
  - Scratching – common in Cosos
  - Incising – common in Southwest, rare in Cosos

It’s hard noisy work!
Rock Art Creation – Dating Rock Art

- Assigning dates to petroglyphs would help understand the anthropology, but...
- Petroglyphs notoriously difficult to date
  - Radiocarbon works for some pictographs, but not for petroglyphs (no carbon!)
  - Both qualitative and technical methods have been tried, with limited success
Rock Art Creation – Qualitative Dating Methods

- Style sequences
- Superimposition
  - Later images overlie earlier images
- Content
  - Image portrayed may provide a clue

Older?
Rock Art Creation – Inferring Age from Content

Elko Eared points
~ 2600 ya

Archery, <1600 ya

Cowboy and horse
< A.D. 1860

Vehicle, ca. A.D. 1925

ca. A.D. 1950
Rock Art Creation – Technical Dating Methods

- Relative contrast
  - High-contrast images should be younger than repatinated ones
- AMS radiocarbon
  - Measure carbon trapped in desert varnish
- Cation ratio
  - Measure leaching of K and Ca from rock surface
- X-Ray Fluorescence (XRF)
  - Measure Mn in desert varnish
- Dating of associated sites
  - Radiocarbon, OHD, projectile point typology
- Inferences from archaeology
Rock Art Creation – Motif Dating Estimates

Paleoindian and later, 
>10,000 ya

Newberry period and later, 
<4,000 ya

Haiwee period and later, 
<1,600 ya
Rock Art Creation – Linguistic Complexity in California

- 23 language families
- 90 distinct languages
- 25% of all native languages in the United States

**Implies**
- Population movements
- Little local continuity
Rock Art Creation – Desert Occupation Sequence

• Present occupants are Shoshonean speakers
• Shoshonean languages are Uto-Aztecan
• Wide spectrum of opinion by anthropologists on time depth
  • >13,000 yrs ⇒ 600 yrs
  • Local tribes say they “have always been here”
• Upper Mojave Desert occupation – consensus model
  • Early occupation from >13,000 ya
  • Uto-Aztecan incursion at some more recent time
• Current Native American inhabitants genetic descendents of both groups
Rock Art Creation –
Uto-Aztecan Expansion

- Uto-Aztecan speakers native to northern Mexico
- Initial southwest entry ca. 4000 ya
  - Brought maize agriculture
- Subsequent expansion into California and Great Basin
- Probable arrival in eastern California ~3500 ya

Modified from Simms 2008: 250, Fig. 6.4
Rock Art Creation – Who Made Them and When?

• My interpretation
  • Early occupation by unknown group
    • Possibly Hokan speakers
    • Created earliest glyphs
  • Uto-Aztecan speakers arrived ~3500 ya
    • Created majority of Coso images
    • Peak production between 3000 - 1000 ya
  • Production decreased dramatically ~700 ya
    • Reasons not understood
Rock Art Interpretation – Animism and World View

- Animism – common world-view among hunter-gatherers
  - Material objects – springs, rocks, landscapes – embody spirits
  - Spirits exist in another realm of reality
  - Humans can communicate with and have personal relationship with landscape spirits
  - Spirits control access to resources – water, plants, game animals
  - Shamans have special powers to contact spirits and invoke their aid

- Distinct from our Western (Cartesian) world view
- Rock art interpretation must respect this animistic world view
Rock Art Interpretation – Hunting-Related Theories

- Hunting magic (Heizer and Baumhoff; Grant et al.)
  - Creating images of bighorn sheep would improve chances in hunting
  - Analogous to buffalo hunting on the plains
- Increase rites (Garfinkel and Austin; Hitchcock)
  - Ceremonies to ensure fecundity of game animals
  - Addressed to “Master” (or “Mistress”) of the Game Animals
- Prestige (Hildebrandt and McGuire)
  - Images part of boasting by successful hunters
  - Builds social prestige and hence power/authority
Rock Art Interpretation – Theories Not Hunting Related

- Shamanic vision quests (Whitley; Pearson)
  - Shamans create images to aid in gaining spirit helpers
  - Spirit helpers convey power to the shaman
- “Conversation” with the landscape (Wright)
  - Images represent conversation of an individual with spirits of the landscape
- Merging realms (Lewis-Williams and Loudser)
  - Images show superposition of the spirit realm and the physical realm
Rock Art Interpretation – Theories Related to Social Uses

- Landscape socialization (Quinlan and Woody)
  - Images socialize the landscape
  - Markers of social groups and boundaries
- Storyboard (Stewart et al.)
  - Rock surfaces used to depict legends and origin stories
- Picture writing (Mallery)
  - Images used to convey information
  - [Great Plains narrative art]
Rock Art Interpretation – Should We Use the Word “Art”? 

- Issue raised in context of today’s art
  - Art today is peripheral to essentials of life: “Art for its own sake”
- To ancient peoples, art was integral with life
  - Art is ubiquitous among world cultures
  - Expressed group identity and solidarity
  - Created meaning and security in an uncertain world
  - Conferred evolutionary benefit
  - Anthropology: “Art for life’s sake”*
- Rock art is “art” in this anthropological sense

* Ellen Dissanayake: *What is Art For?* (1988)
Rock Art Interpretation – Cautions

- No one theory can explain all rock art
  - Purposes may have varied over time
  - Meanings are culture-dependent
  - Meanings may also have varied through time
- Rock art was serious endeavor, not doodling
- People who made the rock art did not share our Cartesian perspective
- Beware of interpretation vs. reality
- Must be careful about reading our meaning into ancient art ("ventriloquist’s dummy")
Fast Forward –
Land Withdrawal 1944

• 650 sq miles withdrawn for Navy use in early 1944, including the Coso rock art
  • Test ranges for air-launched rockets
  • Major role in winning World War II
Fast Forward –
Naval Air Weapons Station, China Lake

- Now 1700+ square miles
- Home of the Navy’s largest laboratory/test range complex
- Development, test, production support of aircraft weapons and weapons systems
- Major contribution to the Fleet ever since World War II
- Archaeological and rock art resources protected
Fast Forward – Petroglyphs and Land Withdrawal

- Were the petroglyphs known at the time of land withdrawal?
  - Known by Native Americans for thousands of years
  - First known published description in 1860
  - Photographs and magazine articles from 1920 – 1940
  - Academic study from about 1940

Existence of the Coso rock art and archaeological sites was known prior to WWII – not a factor in land withdrawal
Fast Forward –
Stewardship of the Coso Rock Art

- Coso Rock Art District National Historic Landmark
  - 36,000 acres within China Lake Navy base
  - Jointly dedicated by Navy and NPS on May 20, 2005
- Navy manages access
  - Native Americans – rituals, special tours
  - General public (escorted tours)
  - Study by anthropologists and art historians
- Navy stewardship has been outstanding – little vandalism or other damage
Rock Art Publications Available at the Maturango Museum Store

Plus lots more in the Museum Library!
Rock Art Electronic Media
Available at the Maturango Museum Store
Before You Ask #1 – What does Maturango mean?

- Name of highest point in Argus Range
- Recorded on topographic map in 1871
  - Lt. Wheeler survey, published in *Geographical Expedition and Surveys West of the 100th Meridian*
- Source of name unknown
  - Mexican vaquero’s slang for a poor horseman (??)
  - Nickname of a local Native American in the 1870s (??)
Before You Ask #2 –
Origin of “China Lake” Name?

- 1868 - Chinese laborers imported to build Central Pacific RR
- 1870s - Chinese employed in the area by Remi Nadeau to build roads and John Searles to mine borax
- 1913 - Map of Tonopah and Tidewater Railroad shows “China Wells” in this valley
- 1914 - USGS report
  - Refers to “China Lake or China Borax Lake”
  - “This name was given because of former borax workings which were presumably operated by Chinese labor.”
Coso Culture and Rock Art – Take-Away Thoughts

- Cultural time-depth
  - Greater than 13,000 years
- Wetland/Desert hunter-gatherer lifeway
  - Materially very successful
  - World-view based on animism (non-Cartesian)
- Rock art
  - Critical to success of social group
  - Exact significance unknown today
- Meaning of the petroglyph tour experience

What did it mean to you?
Questions?

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