

Agency and Western Ontology

- Dualism of the western world: human/non-human; animate/inanimate; living/dead; mind/matter
- Agency mediates between humans and the non-human world; it involves intentional, planned action and results in material construction.
- Since agency involves intentionality, it becomes a major issue in archaeoastronomy: Are astronomical orientations the result of intentional action...such as were the lines of megaliths at Nabta Playa intentionally oriented to Arcturus? Are certain structures intentionally oriented the solstices?

Alternate Ontologies

- Archaeoastronomy often deals with other cultures, with perhaps different realities.
- Instead of different world-views there are different worlds
- Today, a goal of archaeoastronomy is to try to get into people minds of ancient people and see the world as they did and try to understand why they interacted with the heavens as they did.

Alternate Ontologies

- A starting point is to collapse division between binary opposites.
- Human/non human: animism: the world is full of beings and only a fraction of them are human (Harvey); these other beings may have “agentive” behavior. There may be some sort of symmetry between beings- both may possess agency.
- Humans may establish reciprocal relationships with non-human entities such as the landscape, i.e. mountains which control weather and fertility: offerings, sacrifices, respectful behavior

Alternate Ontologies

- What are these “entities”
- They are not self-existent; they arise because of our relationship with them: relational ontology.
- Furthermore the world may be symmetrical-these entities have all the attributes and abilities for agency that we do.
- We and they are entangled in an immense tapestry, the part of which do not exist alone, which frays if we try to cut into it.

Alternate Ontologies

- The nature of these entities changes as we change. In Amazonia the potential (and fear) for transformation of “objects” is constantly present: perspectivism. Bodies are brought into existence and stabilized by their effects on us and we upon them.
- Modern world of quantum mechanics- Niels Bohr and the Copenhagen interpretation. The electron is the result of the relationship between the physicist, the measuring equipment, and the world. It, the proton, the Higgs Boson exist only as relationships. Change the relationship and that entity changes from a wave to a particle, neither of which is the fundamental and complete nature of that “entity”.

Alternate Ontologies in Peru

- We are fortunate to have records of Spanish Chroniclers to help us get into the minds of the Inca
- What did they experience or see when confronted with a rock, a mummy, a mountain, a rainbow, or the sun?
- Again, their experience was non-dualistic: rocks or mummies or mountains could be alive, possessing agency, power, source of wisdom, and potentially dangerous.

ASTRONOMY IN PERU: June solstice at Machu Picchu



Andean cosmology

- The brilliant architecture, complex astronomy, and rich symbolism of the Inca Empire were the culmination of 4500 years of preceding Andean culture, all to be destroyed by Pizarro and his fellow Spanish thugs in 1533.
- Cosmological motifs can be traced back to the Late Archaic Period (3400-1800 BCE) platform mounds and sunken circular plazas were associated with axes connecting solstices.

Andean Cosmology

- The repetition of mounds, monumental stairways, and sunken plazas suggests a continuing cosmological theme that persisted in the Andean culture area for more than four millennia.
- Shamanic paradigm/ontology: movement across the worlds, transformation, blurred distinction between living and dead, inanimate and animate. Worlds are connected by stairs, trees, birds.
- Ceremonies on the summits of the platforms were actual cosmogonic events (not theatre performed by actors, priests, or elites) performed on sacred mountains by the gods that would lead to bountiful harvest of land and sea.
- Ascent along stairways from sunken plazas to summits of pyramids involved real transformation of ancestors to gods.

Caral: The Great Pyramid

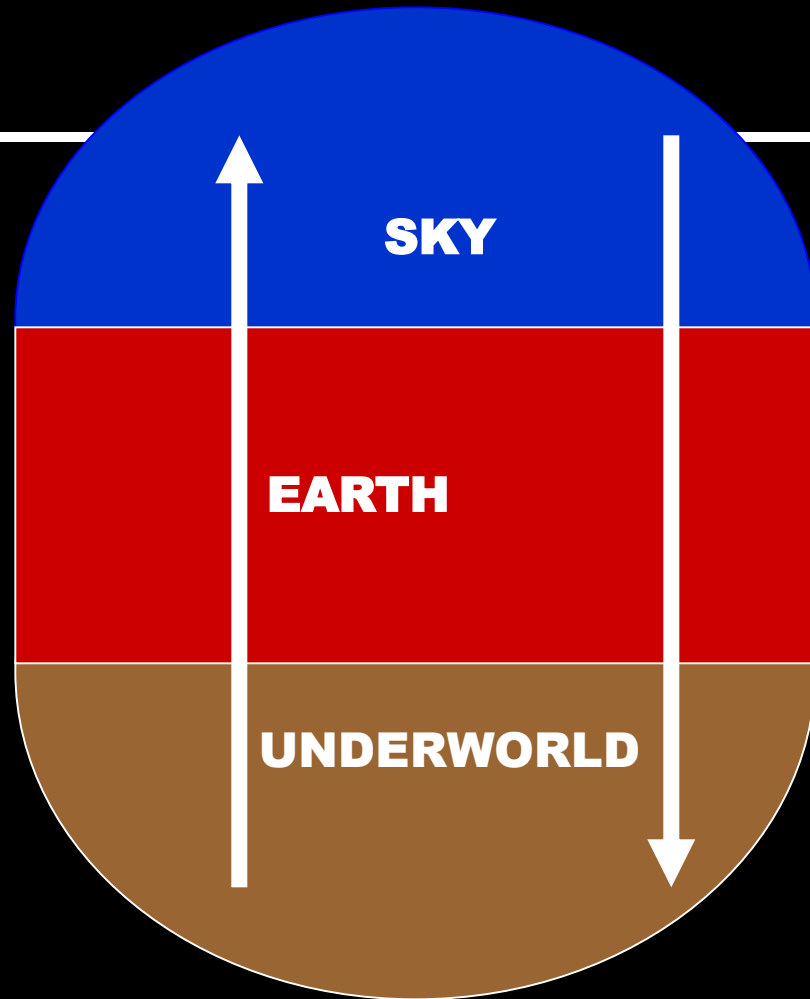


Caral

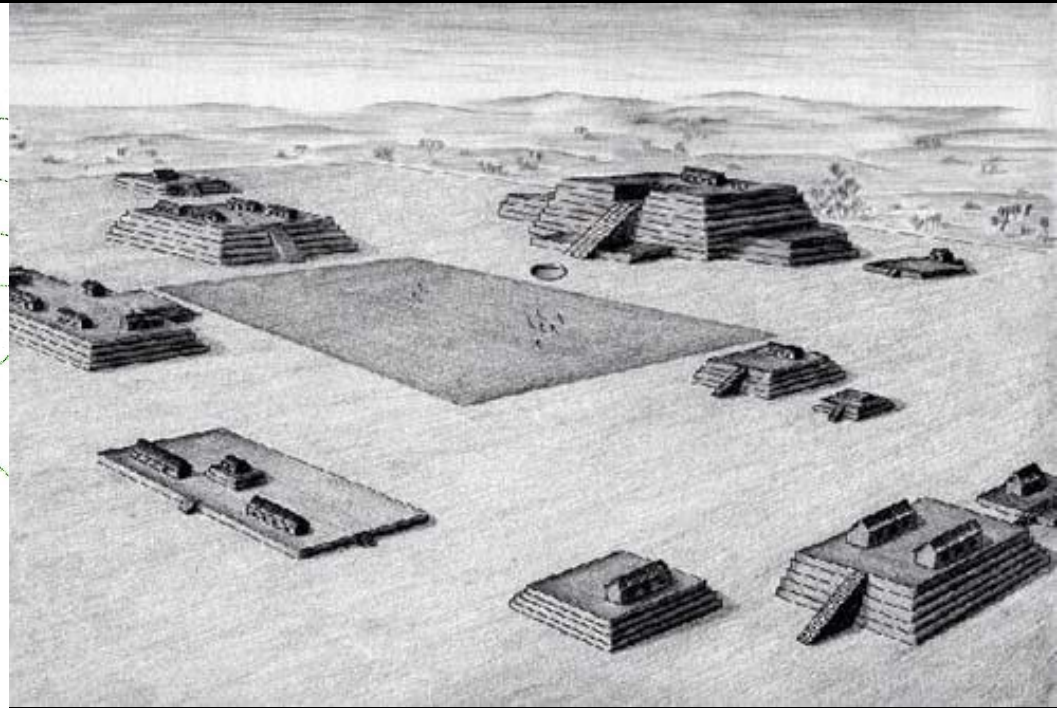
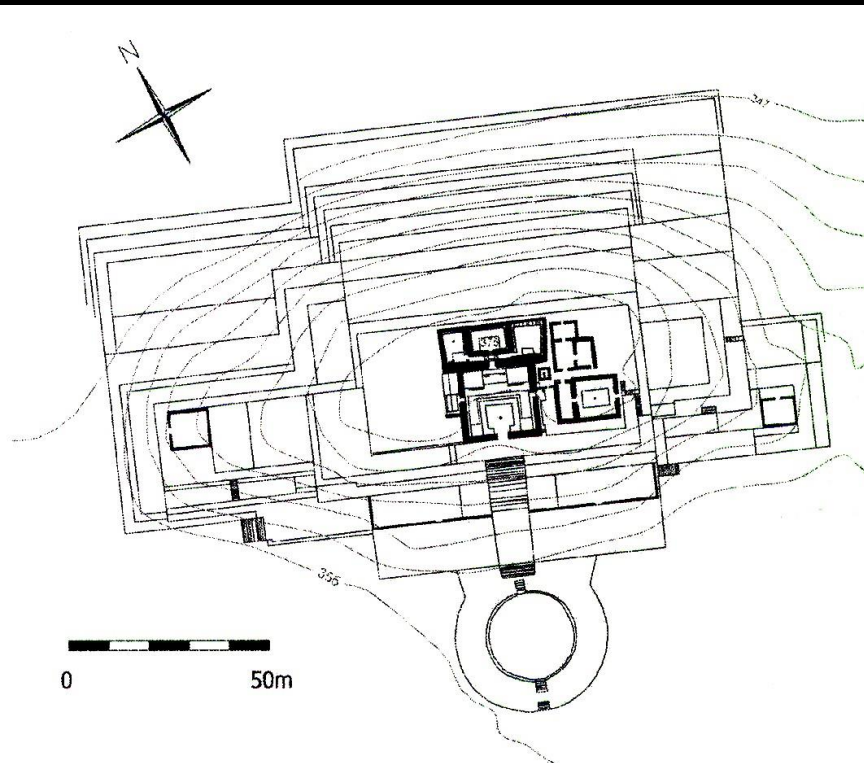


Stairways

Symbolic of
shamanic
movement
between the
three worlds



Caral: Great Pyramid face oriented to December solstice sunrise



Huacas

- While huacas were often inanimate objects, they were living beings with extraordinary powers who were honored, fed, and consulted. Huacas were an aspect of ancestor worship of the Andes with great wisdom and the ability to influence the living world.
- Huacas had vibrant lives, participated in processions. They were fed, dressed in clothes, married, and sometimes abducted and destroyed by enemies. Their well-being relied upon a continuing flow of offerings. These offerings were understood to be necessary to maintain equilibrium and balance in the world, an expression of the symmetry and reciprocity between the living and the dead.

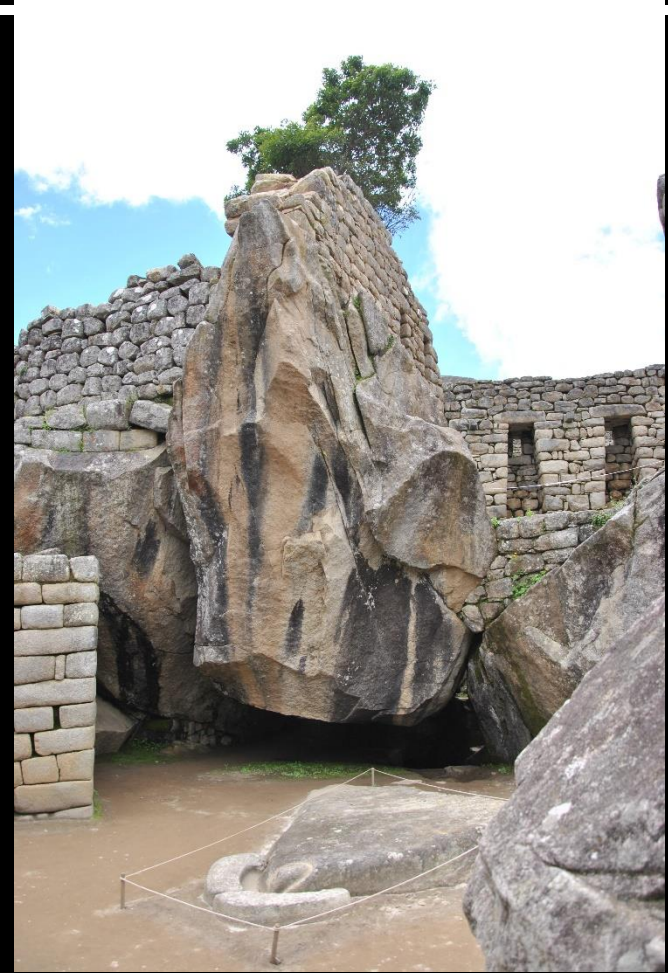
Huacas: Machu Picchu: The Torreon

June solstice sunrise



Huacas: Machu Picchu, The Condor

Anti-zenith sunrise



Huacas: Cusco



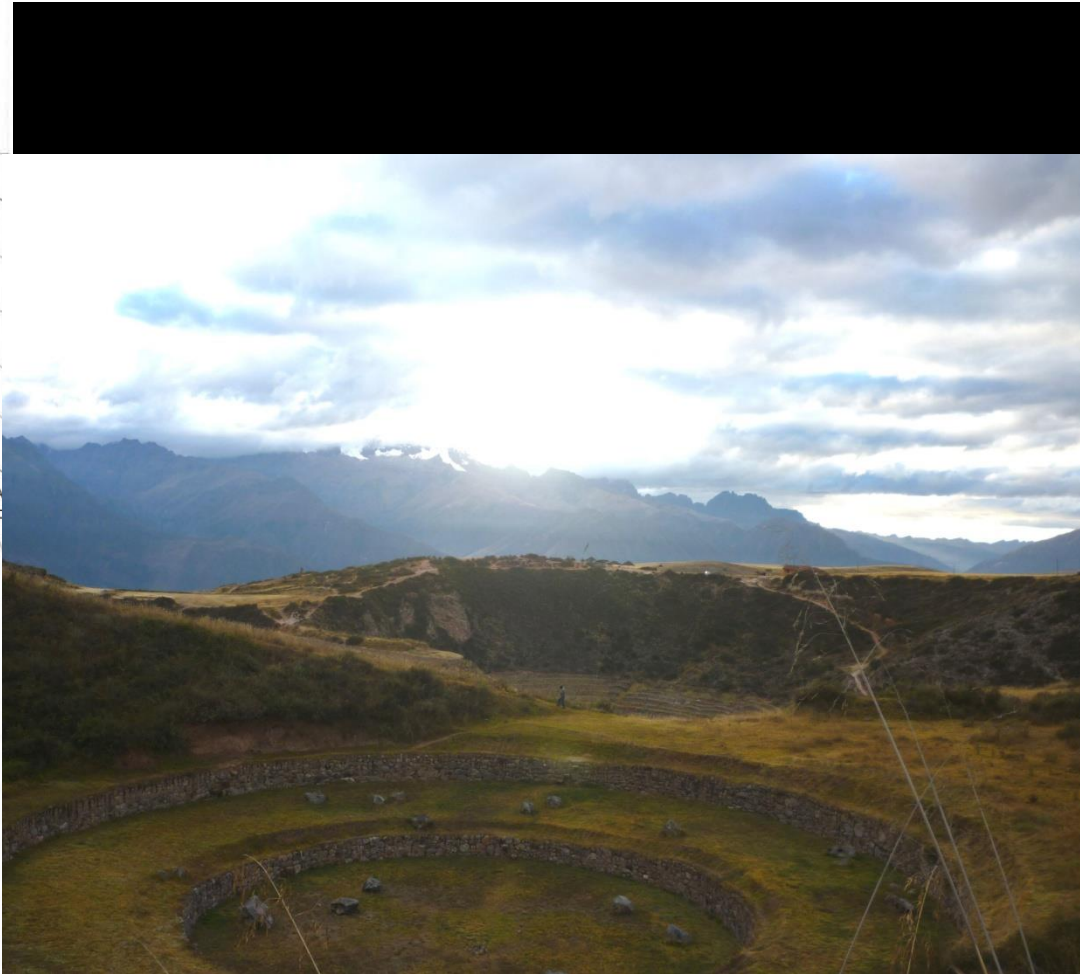
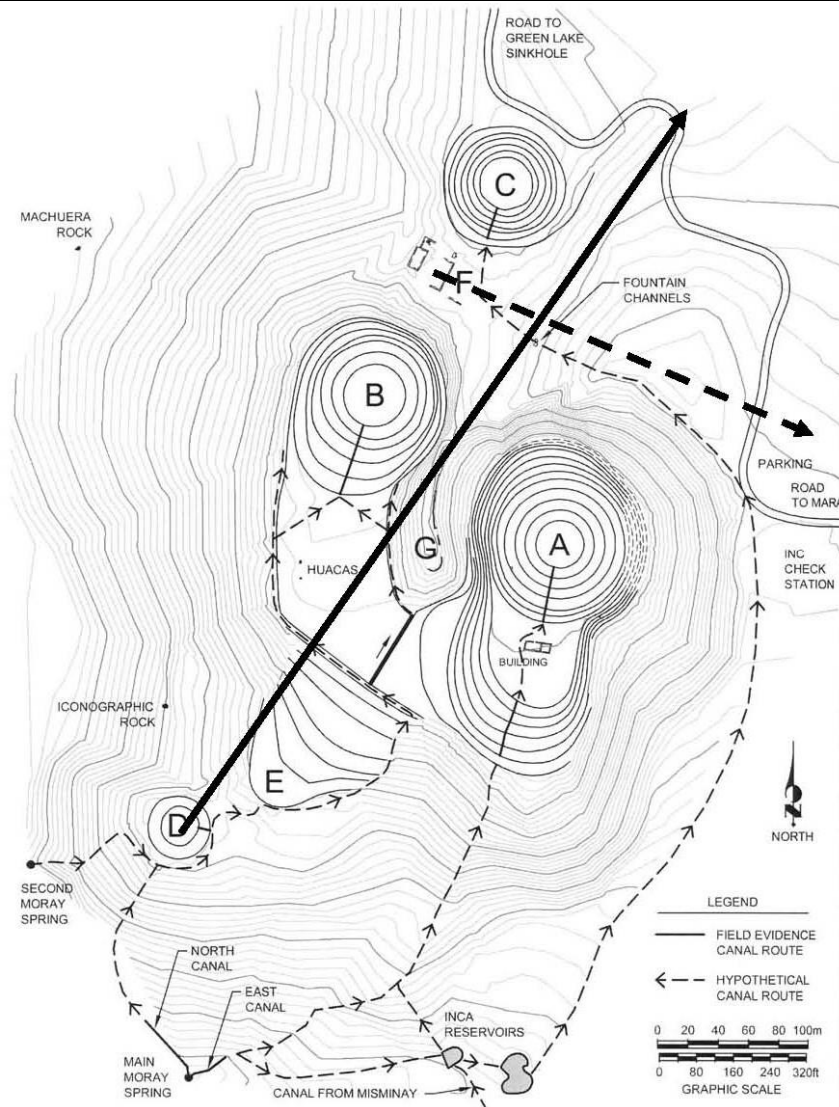
Huacas: Moray



Moray

- Agricultural Research Station?
- Place for water offerings to Pachamama-sunken in the earth: ritual descent
- Huaca- animated by sunlight and water
- Local villagers claim walls of terraces were lined with gold and silver sheets
- Celebration of zenith sun

Moray: June solstice sunrise



Moray: Linear Terraces



Moray: June Solstice Sunrise





6:40 am.





Moray: energized by the sun and water; alive; offerings to the Earth



Llulliallaco, 22,110 feet; state supported pilgrimage destination



High Mountain Capachocha Ceremonies

The Incas are renowned for their marvelous architecture, skillful masonry, complex political organization and for their extensive system of roads. Perhaps their most remarkable achievement was the ascent and the building of ceremonial structures on many of their highest peaks, the highest being Lullaillaco with an altitude of 22,110 feet, containing on its summit the world's highest archaeological site. The mountain is on the Chilean-Argentine border, east of Antofagasta, some 750 miles south of Cusco. It was climbed by the Inca around 1500 and then not again until 1952 when two Chilean climbers, anticipating a first ascent, were disappointed to discover they were not the first. The destination of a 750 mile pilgrimage, organized to reach this remote mountain's summit on or close to December solstice sunrise.

Summit: capacocha ceremony



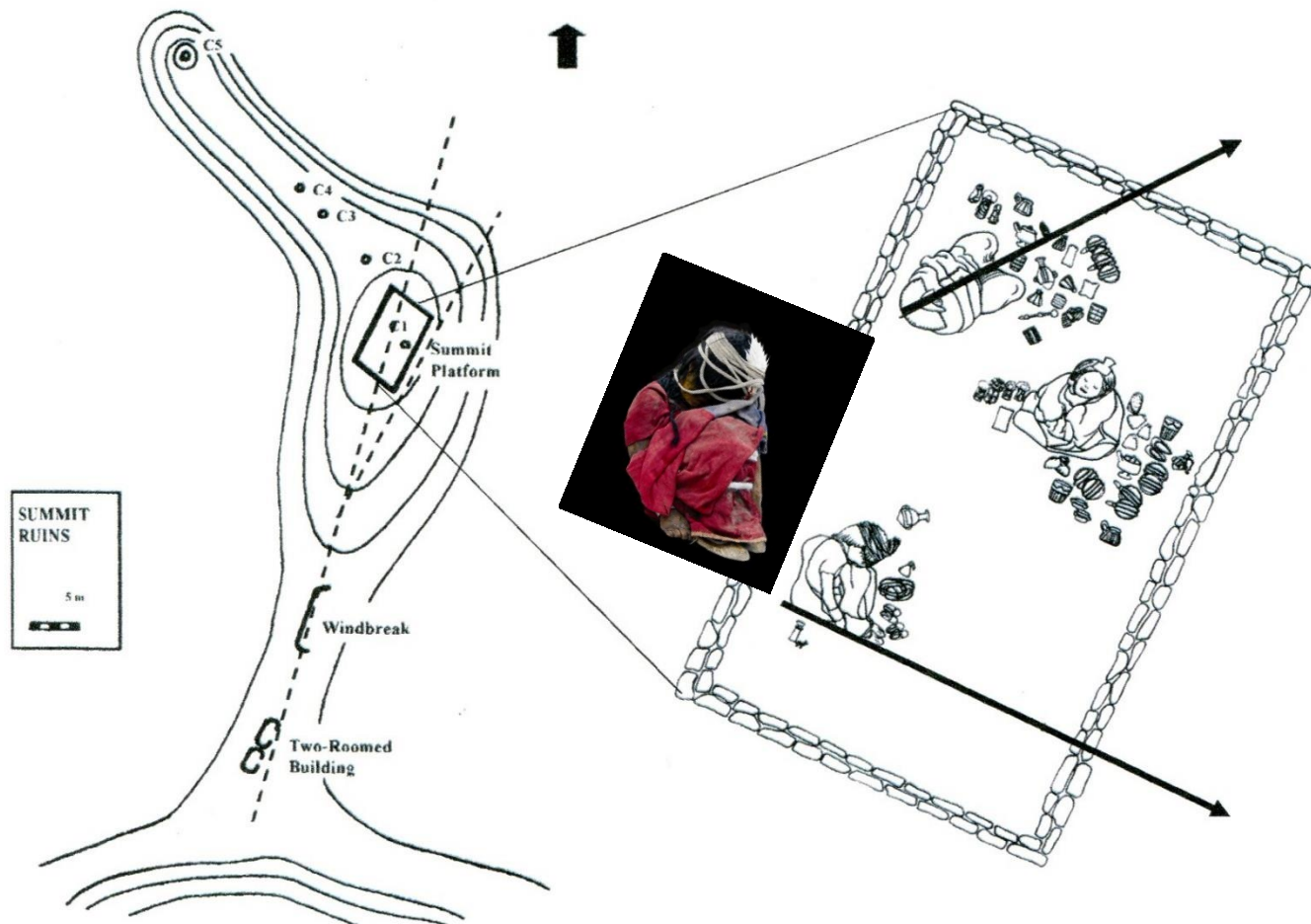
Summit burial platform: a Huaca







Burials oriented to December solstice sunrise and June solstice sunrise





What did this mean to the Inca?

- Powerful mountain deity with power and agency- anticipation of reciprocity
- Summit closer to solar deity who controlled everything
- No distinction between living and dead?
- Geopolitical- conquered lands brought under suzerainty of Empire by co-opting local traditions
- Incredible planning and effort into this pilgrimage

Urubamba: Palace of Huayna Capac



Urubamba: white rock in center of plaza, huaca observing position for June solstice



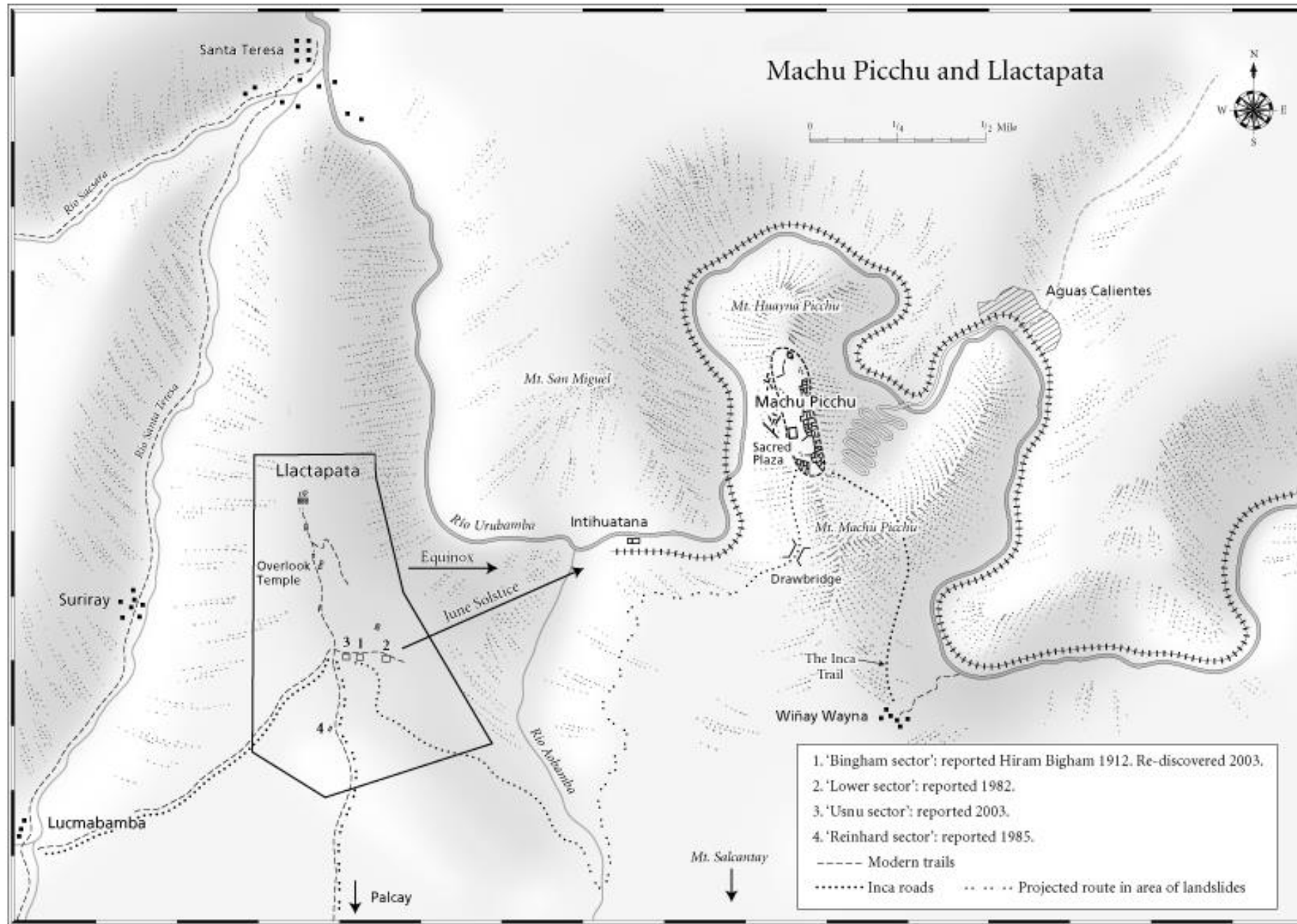
Urabamba Towers





Machu Picchu: The Intiwatana Pyramid at June solstice







a Palcay
y Salkantay

Sector IV

Sector III

Templo del Sol

Sector I

Usnu

a Vitcos y Choquequirao

Sector V

A Templo Mirador

Sector II

sitio del campamento

Camino principal
a Machu Picchu

Cañón del Río Urubamba

Llaqta Pata Ridge
From
Machu Picchu



Llactapata Cloud Forest





Llactapata: Double jamb door





2007/06/14

A black and white photograph of three people standing in a field. On the left is a man wearing a hat, a dark jacket over a white t-shirt with a graphic, and dark cargo pants. In the center is a woman with blonde hair, wearing a dark jacket and light-colored cargo pants, holding a camera. On the right is an older man with glasses, wearing a dark jacket and light-colored cargo pants. In the background, there are several tents and trees. The names of the individuals are printed in white text over the image.

**JOHN
LEIVERS**

**ROZ
SAVAGE**

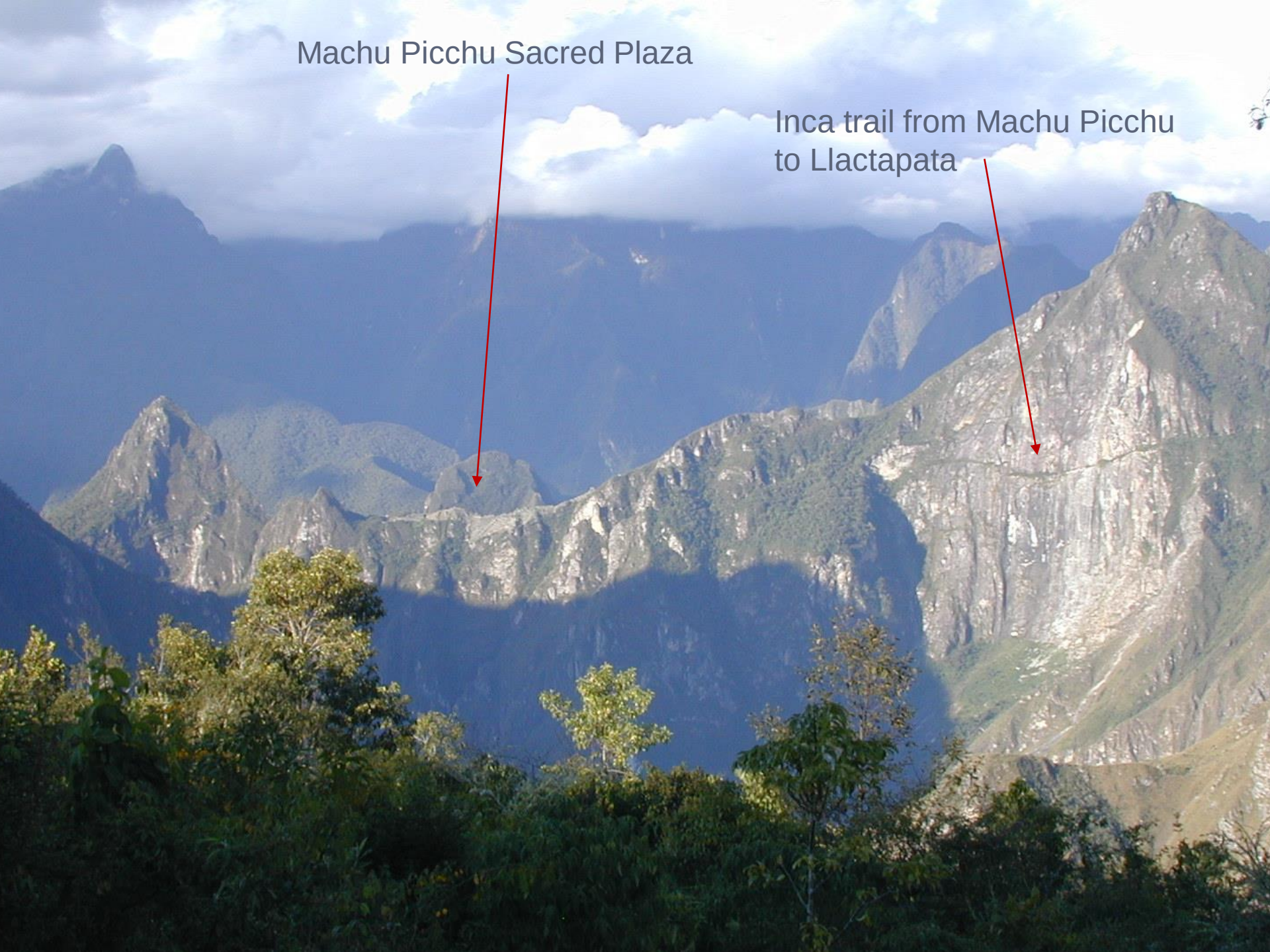
**KIM
MALVILLE**

LLACTAPA 2003

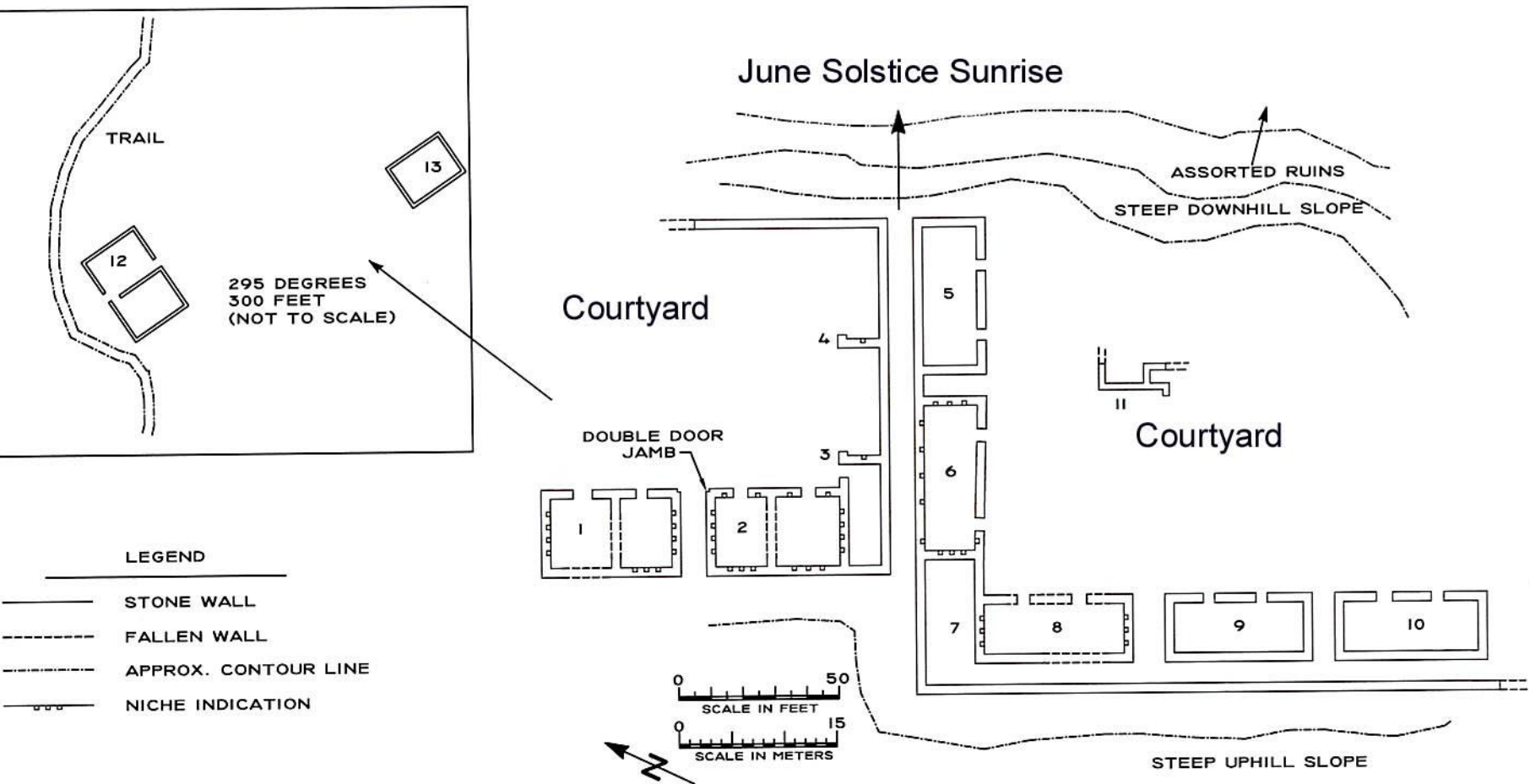
- Roz Savage: 4 Guinness world records-rowing solo across Atlantic, Pacific, Indian Oceans in 23' row boat
- John Lievers: Australian adventurer and Peruvian archaeologist featured in "Turn Right at Machu Picchu." Probably has visited and seen most if not all Inca sites.

Machu Picchu Sacred Plaza

Inca trail from Machu Picchu
to Llactapata



Llactapata Sun Temple: Book ended the Inca realm of Pachacuti



Cusco: Coricancha- the center of the Inca cosmos, covered with gold plate



Llactapata: Ceremonial Corridor opening to June solstice sunrise



Llactapata: water channel



Llactapata: Water channel leading toward Machu Picchu



Machu Picchu: Main Gate & Huayna Picchu



Machu Picchu: First double jamb door- similar orientation to Llactapata doorway



Machu Picchu: Double jamb door, June solstice sunrise, & Putucusi



Huayna Picchu







**Tunnel near the summit: liminal passage way
from one world to the next.**



Huayna Picchu: North side



Huayna Picchu North Side: Temple of the Moon



Temple of the Moon: the lowest world and huaca.

Mummies were perhaps carried to the summit.

