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## A Unique Civilization

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Quite spontaneously –and almost inevitably- the mention of Peru brings to our mind images of Machu Picchu and the Inca Empire.

However, the remarkable civilization of the Incas emerged only at a latter stage of cultural development in the pre-Hispanic Andes. In fact, Inca history scarcely spans one century in 12.000 years of human occupations of Peruvian soil.

Peru is a peculiar case among the handful of foci of independent pre-historic human development because it breaks established patterns and requires us to thoroughly rethink the concept of civilization itself.

Since the nineteenth century, one of the central components of the universal paradigm that ac-

counted for the emergence of civilization was that urban societies around the world could have appeared following the pattern set by the European cities of the Renaissance.

Nevertheless, recent decades have seen evidence –mostly coming from the Central Andes and, particularly, from Peru- against this supposedly universal process.

This guide is an invitation to discover the complex civilizations and cultures that flourished in ancient Peru which were partially relegated to oblivion despite of the richness of their iconographic manifestations and the wide range of contributions they have made in uninterrupted succession to mankind's technological and cultural heritage during almost four millennia.

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*Note: The archeological legacy to which this guide refers encompasses 12 of Peru's departments following a North to South axis. The term "Central Andes" refers to the vast territory stretching along the Andes mountain range from southern Ecuador to northern Bolivia. The term "Andean world" is broadly used in a similar sense.*

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## Pre-Hispanic Culture of Peru

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### *The emergence of the city and the state*

Grandeur, rigorous straight lines, rectangular blocks separated by access ways and ample squares found in Peru's archeological compounds bring to our mind the layout of Mediterranean cities of Greek as well as Roman heritage. However, compared to Mesopotamia, cradle of man's first juridical and economic organization built on market and individual property principles, Andean civilization shows substantial differences. The first of such differences concerns agglomeration processes. Large cities like Wari, Cajamarquilla and Chan-Chan had relatively short lives of 400 to 600 years, they were born suddenly and expanded quickly. Not even ceremonial centers like Chavin or Pachacamac were occupied continuously under the same design pattern for more than one thousand years.

Another difference lies in the fact that in Western cities, roofed houses separated from other houses, i.e. the family's place of residence, were the basic units and the reason for the existence of the whole. Inside them, courtyards, passages and streets are organized around private roofed areas. In the Andes, instead, communal spaces that served political and economic functions- like squares, courtyards and open areas- were the organizing core. They include sacred spaces such as pyramids, platforms and restricted monument compounds, but exclude homes. In most Mediterranean cities, public spaces occupy about 30% of the total area and their monumental buildings are at the center of a residential belt that grew slowly and haphazardly, as shown by the maze - like layout of their roads and passages. In the Andes, we find the exact opposite relationship everywhere.

But the differences do not end there. Also challenging modern understanding is the location of several monument compounds that may have been cities. In the Andean highlands, they are often located at the top of almost inaccessible mountain peaks. On the Coast, they hide in gorges or sit at the top of high, barren plateaus, far from agricultural areas. The peculiar character of Andean city design stems from its origin. In Mesopotamia and most ancient Mediterranean civilizations, urban growth gave birth to the es-

tate as the guide of a new society where kinship had ceased to play the most prominent role in human relationships. In the Andes, the emerging state fostered the construction of large architectural compounds to serve administrative, religious and production ends.

How sedentary life was organized in the Andes is another source of amazement. Even the large capital cities of Andean kingdoms and empires often had a small permanent population. Cities comprised sanctuaries as well as sacred palaces with innumerable administrative buildings located along roads and irrigation canals. A profuse calendar of ceremonial activities performed in public spaces organized the numerous economic and political functions that characterized the life of crowded cities in other parts of the world.

Taxes paid in labor and kind always arrived at the scheduled times, and the hierarchical positions, duties and obligations of the ruling elite were confirmed. A loose layout guided an unceasing flow of people who traveled to either pay homage or taxes. With evident relation to the roads, canals, mountains and other sacred places, cities basically served as a stage for periodical festivities where the ceremonial corn beer called "chicha" was abundantly poured. Thus, the state could count on an extended reservoir of labor at the right time and place without having to concentrate large population contingents in big cities. By and large, most pre-Hispanic Andean societies follow this model, although we can clearly identify at least three broad categories of sites exhibiting pre-Inca and pre-Chimu architectural patterns, including rural settlements of about one half to 4 Ha; monument compounds serving administrative and religious functions usually larger than 8 Ha; and dispersed religious structures such as pyramids, and other smaller groups of closed buildings, platforms and terraces.

### *The Andes as a cultural challenge*

The peculiarities of Andean civilization can only be understood if we take into account that the Andes imposes daunting challenges and demand creative solutions given its total or almost total physical isolation from other major cultures.

Contrary to other mountain ranges like the Himalayas in Asia, or the mountains of Central and Eastern Africa, the Andean mountain range runs from north to south and parallel to the Pacific Ocean, thus creating a vast range of east-west niches that make Peru one of the world's most environmentally varied sceneries, climate, and plant populations.

Towering mountain ranges contributed to the relative isolation of Andean intervalleys from the tropical High Jungle and the Pacific Coast that could only be reached by foot in at least one week after crossing the frozen Puna glaciers. Still, coastal valleys running from east to west communicated somehow naturally with Highland intervalleys stretching from north to south or conversely. Remarkable geomorphological and ecological differences between Peru's northern and southern Andes led to independent cultural developments linked however by a shared historical destiny. These two developments poles were divided by a constantly shifting broad border band, stretching from the Fortaleza valley to the Cañete valley on the central coastal strip and reaching the higher Mantaro river basing on the adjoining Highlands.

### ***The North***

The wide strip stretching from the Piura to the Huarmey valleys and rising to the upper Marañón river basin in the first center of cultural development in Peru. The rivers running across this area –some of which like the Jequetepeque and the Santa carry waters all along the year- prompted the building of irrigation systems. Lower mountain heights in this region let humid air masses move freely and permit the growth of a humid tropical forest in some highland regions, much like the tropical typically found on the eastern Andean slopes. The domestication of tropical tubers and the diffusion of corn started here.

Almost since the end of the pre-ceramic period (around 2.700 BC) an impressive development took place in this area. Names of local styles like Sechin, Cupisnique, Salinar, Mochica, Lambayeque and Chimú on the Coast and Huacaloma, Chavin, Layson, Huaraz, Recuay and Cajamarca in the Highlands remind us of later periods in the region's rich ancient history. Further north, the Chira and Tumbes basins lie at the border with the Northern Andes.

### ***The South***

At an altitude of about 3.000 masl in the Highlands, the Apurimac river valley, the Valley of Cuzco and the Lake Titicaca basin make up the second pole of development. The narrow coastal strip is connected to the High Plateau by deep gorges distant from each other. The Pisco, Ica, Palpa and Nazca valleys play a pivotal role in the southern Coast of Peru, because the route to the Ayacucho inter-Andean basin starts at their headwaters. Their history reflects the area's harsh and extreme conditions. Scarce water, in particular on the western Andean slopes, and low temperatures in the Highlands were offset by means of technological introductions like underground canals on the Coast, terraces provided with forced irrigation in the Highlands, and planting on mounds amidst fields in the High Plateau. Poor and fragile soils were rendered useful through the domestication of grains and tubers specially adapted to grow at high altitude, the abundance of South American camelids, and a rich life in the cold ocean waters that are home to the world's largest diversity of fish and shellfish. Complex social and political organizations emerged almost 2.000 years later than in the North but this development pole was the stage for remarkable breakthroughs like the domestication of camelids, sophisticated fishing methods, and elaborate funerary rites. Paracas, Nazca, Wari and Ica-Chincha evoke the main stages of pre-Inca history in the region's southern half. The northern area evolves around the Titicaca area and has its own sequence of cultural development from Pukara to Tiawanaku to Chuquibamba and Churrajon.

### ***Technological foundations and community spirit***

As in other part of the planet, adapting to environmental changes after the last ice-age led to the emergence of agriculture and the fast spreading of sedentary life. However, Andean civilizations followed a wholly different technological path than the Mediterranean, South East Asian or Central American civilizations. Among the most glaring differences stand the absence of draught animals, and a limited number of domesticable species that could provide large amounts of animal protein. Only two ancestors of the South American camelids, the guanaco and the vicuña –wild predecessors to the llama and the alpaca, respectively- were available. The guanaco, an almost extinguished species in Peru, was

particularly suited to living on the Coast, while the vicuña, source of the finest fleece in the world, lived in remote places at high elevations.

South American ruminants were the source of wool for clothes, meat for food, hide and bones for making instruments and tools, manure to generate heat and energy, and the beasts of burden and transportation for long haul travel. Only after they were domesticated, it was possible for men in the Andes to exploit regions above 4.200 masl where farming is impossible. Andean men required high mobility to gain access to a wide range of ecological niches and complementary economic resources. Although it is a proven fact that domesticated llamas could live on the Coast and ritual hunting of deer and guanaco took place on the forested slopes along the coastline, exploiting sea resources was essential to provide a balanced diet to the people of western Andean slopes and to produce sufficient dry meat surplus for later consumption. Probably, shellfish harvesting and fishing supplemented by gathering and incipient horticulture, sufficed to lay the foundations of small sedentary communities already towards the fourth millennium BC. Herding societies in the Highlands, who depended basically on camelid herding for their daily subsistence, emerged parallel to and independently from the Coast's sedentary or semi-sedentary settlements.

Another basic peculiarity of Central Andean cultural evolution is the wide variety of domesticated plant species in at least three different geographical areas: The High Jungle, straddling the eastern and western Andean basins; the High Andean area, and the coastal desert. Some of these species have gained world recognition re-

cently, such as mashua -presumably aphrodisiac-, or maca, an equivalent of world-famous Korean ginseng. Others have been a staple in mankind's diet for several centuries, including hundreds of potato varieties and four of the world's ten cereals: corn (developed independently from Mexico), cañihua, kiwicha and quinoa. Hot chili peppers -known as aji- were included in the diet of Andean people since 8.000 BC, and from about 2.700 to 1.500 BC the menu already included tubers and roots like manioc, mashua, potato, sweet potato, olluco, oca and achira; legumes and pulses including tarwi, broad beans and beans, roots like yacon and jiquima; fruits including avocados, chirimoya (custard apples), lucuma and guava, peanuts and pumpkins, and plants of industrial use like gourds and cotton. An outstanding aspect of Andean agrarian civilization is that the whole of its production relied on human labor. Only a few rudimentary tools were available. At a later stage, the chakitacla or wood plough was improved by adding stone or metal points. Maces to break earth clumps were the most commonly used tools until the time of the Spanish conquest. On the other hand, cropping techniques foretold the environmental viewpoints adopted in the western world only towards the end of the twentieth century. The most common farming system was similar to small-parcel horticulture that allowed the best use of soils, water resources and natural fertilizers. Considering this background, it is not surprising that individual survival hinged on coordinated work among all community members. In Peru's vast territory, the need to count on large numbers of hands and minds moved by a grand common goal fostered a sound sense of community belonging that is still today a salient feature of Andean culture.

## LAMBAYEQUE

### The True EL DORADO

Tons of gold, silver and copper were unearthed by tomb looters from the Royal Tombs of Batan Grande, Sipan and other sites in Lambayeque. Later research showed that the area comprised between the Piura and Jequetepeque rivers was one of the cradles of Andean metallurgy. When the Spanish arrived, pre-industrial regional states like the Moche –which had built large scale irrigation systems and developed almost every metallurgical technique used in pre-Hispanic Peru- were still very much alive. Chiclayo, the department capital, is one hour away from Lima by plane and from 8 to 10 hours by car along the Pan-American highway. The region's weather is warm, with around 20°C average annual temperature in summer and 15°C absolute minimum in winter.

#### *The royal mausoleum of Sipan*

***The first of the tombs belonging to the Lords of Sipan was found in 1987 at the Huaca Rajada site by Walter Alva and other archeologists working with the Bruning Museum. It was immediately ranked, as the world's most important archeological discovery in the last quarter century and compared to the finding of King Tut's tomb in the Valley of Kings in Egypt.***

The evidence of funerary rites unmistakably points to a strongly stratified Moche society where political and religious roles were very clearly defined. The highest members of the ruling elite were priest (as in Huaca de la Luna), religious bureaucrats (as in Huaca de la Cruz), princesses and priestesses (as in San Jose de Moro), or warriors (in Sipan). At the Sipan burial, the number of corpses accompanying the main interment, the wealth of the attires and gold adornments, and the number of vessels with offerings, leave no doubt about the prominent position of the buried personage in the social pyramid. The tumi, or half-moon shaped ceremonial knife –hanging from his belt or worn as the main decoration on his headpiece-, the rattles, large earrings, and nose-rings were worn as a sign of distinction by war chiefs. A scepter ending in a tumi knife at the bottom symbolized the chief's power over the life of his vassals. The rattle at

the top end of the scepter shows an embossed decoration representing the capture of a vanquished warrior about to be sacrificed.

After placing the dead ruler's body on a wooden dais, his face was covered with embossed gold plates that replicated in minute detail the shape of his eyes, nose and chin. His right hand holds an oval gold ingot. He has a silver ingot in his left hand. The symbolic gold-silver opposition is found again in the chief warrior's scepters and garment decorations, probably as a sign of his power or control over the two halves of his kingdom, and as a metaphorical representation of the realms of the feminine Moon and the masculine Sun.

The bottom of the sarcophagi, made of wood tied with copper, is covered by a layer of tropical shells (Spondylus sp. and Comus sp.) coming from Ecuador's warm waters, and ceremonial clothes and decorations- including necklaces of embossed gold beads shaped as human heads, and tunics covered with gilded copper plates resembling an armor. The platform carrying the body was placed over the offerings and then covered with new layers of ceremonial clothes. Each set of clothes included not only the garments, but also a set of chest plates made with thousands of chaquira beads, gold and silver necklaces in the shape of human heads, peanuts, spiders and rays, a pair of gold earrings, and large nose-rings. Other gold and copper figurative elements were applied to the headpiece or the dress. Rattles were tied to the chief's waist together with the coccix protector.

Once the corps was laid right at the bottom of the funerary chamber, the priests surrounded the main sarcophagi with other minor ones made with reeds bearing the corpses of the chief's kin and attendants, some of whom had died months or even years before him. The women's corpses were placed in the opposite direction to men's, on the other side of the principal sarcophagi. Nearby, room was reserved from the llama's body, symbolizing the means of transportation for important personages to the world beyond. The niches on the walls were filled with pots, jugs, and bottles mostly representing human figures.



We do not know if these vessels also contained chicha de jora corn beer or blood from sacrificed humans or animals. Some of the secondary interments found in the chamber probably belonged to the chief's attendants, obliged to accompany their lord in his voyage to the netherworld.

In 1990, two more tombs were discovered near the first site: the tombs of the Old Lord of Sipan and the Priest. A mud brick platform adjoining two pyramidal monuments (named Huaca Rajada) had been periodically expanded in a fashion similar to the temples and probably with the same purpose of renewing the chamber's magical power. Undoubtedly, the platform used in the fourth and fifth centuries AD was a collective grave for various generations of Mochica rulers. It was surrounded by burials of other personages related to the power structure.

### **The Pampa Grande citadel**

***The political capital of the Mochica living to the north of the vast Paijan plains was built from the sixth to eighth centuries AD at Pampa Grande, on the left bank of the Chancay river.***

The urban compound lying at the foot of the Hill of the Gentiles spreads over a 2.000 by 2.400 meters area. Residential quarters for the elite and the populace, warehouses and workshops lie around scattered on both sides of the axis linking the main temple and other smaller ones. The former comprises a large pyramid and two pyramidal constructions surrounded by large walled spaces. Invaluable detail about the everyday life, production and economy of a Mochica capital city surfaced during the excavations at Pampa Grande. Like Sipan, Pampa Grande was built at a strategic location allowing overseeing and controlling a vast network of irrigation canals. In every valley in the northern Coast, the canals laid out at the beginning of the Christian era (Salinar civilization) carried water by gravity and turned the surrounding desert into fertile farming lands. Vast and flat, the Lambayeque coastal strip allowed the Mochica to undertake an enterprise with few equivalents in the world's ancient history. Wide main canals, like Raca Rumi and Taymi, connected neighboring basins, as in the case of Saña, Chancay-Reque and La Leche. Many of these canals are still in use today.

### **Pyramids at Batan Grande**

***Dispersed amidst an impressive carob tree (Prosopis juliflora) forest are the monumental mud brick construction of Batan Grande. The elongated towering platform walls have been carved by the rain of El Niño weather oscillations.***

Now known as the Poma Reserve, the forest gives the traveler a glimpse of the original scenery on the northern Coast when powerful warlords belonging to the Sican –or Moon, in Muchik language- house ruled over this region. The Lambayeque civilization, another name archeologist give the Sican culture, appeared in the ninth century when invading neighbors caused the collapse of the Mochica states.

Later, the Mochica political gravity center moved north to the distant La Leche basin. Sican lords spread their power over the coastal band from Piura to Jequetepeque, amassing considerable wealth. One probable source of such privileged position was the discovery of bronze enriched with copper and arsenic.

Batan Grande has also become very well known for the other reasons. In past decades, grave-looters sacked innumerable funerary chambers by digging deep wells, up to 14 meters down. The royal tombs have been carved inside pyramidal platforms at the top of which were usually courtyards, hypostylic halls, and other areas devoted to different ceremonial, administrative and residential functions.

Some document instances point to a rite where the construction was purposefully set on fire and then abandoned. Photographs of room filled with gold, silver and gilded copper vessels, as well as stories about tons of buried precious metals, triggered a rush of looters to the site.

Fortunately, some tombs escaped the greed of the looters. Archeological surveys have determined that the Sican rulers were buried amongst a funerary luxury not less impressive than their Mochica counterparts, Gold headpieces and masks, cinnabar-died feathers, clothes covered with semiprecious stones and tropical shells were placed over the corpses on the platforms.

More surprising are the bundles of small L-shaped metal plates like "playing cards" said to have had monetary and exchange value. The priests places the cards at the bottom of the ar-

senic-copper well, together with some workshop waste like wood chips and metal plate cutouts. A new and modern site museum exhibits these and other remarkable features of the Lambayeque civilization.

### The Túcume-Purgatorio pyramids

***Batan Grande's imposing pyramids were abandoned towards the eleventh century AD, possible due to catastrophic flooding during a massive El Niño weather phenomenon. This event was paralleled by the flourishing of Tucume, one of the most spectacular monument compounds on the northern Coast.***

The large terraced constructions found at Tucume, that probably became the regional capital, spread like spikes around the mountain hub. Some served residential and administrative functions while others were clearly dedicated to religious ceremonies. With a longer history than Batan Grande's, Tucume kept its importance until the times of the Conquest. On top of the old pyramids, the Inca rulers added new constructions blending Inca and Lambayeque characteristics. At least one high Inca dignitary was buried at Tucume bearing the mascaypacha headband that was a symbol of his rank. The beauty and monumental aspect of Tucume resembles the grandiose capitals of Mesopotamia, a fact remarked recently by Thor Heyerdahl, the legendary researcher of possible pre-historic maritime routes. Heyerdahl's efforts led to several excavation projects the result of which may be seen at the beautiful site museum inspired in the architectural style of the first Colonial churches built under a rustic roof of carob tree trunks.

### The Chotuna - Chornamkap pyramid

***Thor Heyerdahl's curiosity was sparked, among other reasons, by a myth narrating the arrival of Naymlap, a founder of the Lambayeque royal lineage***

According to legend, the civilizing hero arrived accompanied by eight courtesans, one of them was in charge of throwing crushed tropical shellfish (*Spondylus* sp.) on the road on the Naymlap's feet. Naymlap most probably traveled on a raft like the Kon Tiki vessel Heyerdahl used in his famous Pacific Ocean crossing. One of the places

mentioned in the myth may be identified as Chotun, an imposing pyramid near the Spanish colonial city of Lambayeque. It is said that Chotuna was one of the capital cities of Naymlap's royal house because the figurative high relief representations found there are in some cases almost exact replicas of the decorations at Huaca Dragon in Trujillo's Moche valley.

Archeologists tend to think that the most popular icon of Lambayeque art –the so-called Lord of Sipan- actually represents Naymlap, a winged character of slanted eyes and aquiline nose who arrived from the other side of the ocean. Naymlap appears profusely in ceramics, textiles, and even frescoes on many walls. Sometimes it is possible to identify an obviously supernatural being portrayed with the attributes of a high rank marine deity accompanied by the Sun and the Moon. In other circumstances, he appears only as a masked human being wearing the divine headpiece. Indeed, Lambayeque rulers were buried wearing the sacred being's mask over their faces, and with the corresponding attire. We can assume that the rich Lambayeque imagery may actually be an account of episodes from the dynastic myth about the supernatural origin of royal power.

### PRE-HISPANIC NAVIGATION

***Naymlap's myth bears a close relationship with one of Peruvian ancient history, i.e. navigation and the exchange of Spondylus, a warm water shellfish harvested at considerable depth near the Plata island in Ecuador.***

Red and impressive, *Spondylus* shells were considered the perfect offering in the native religions of Peru and Mexico (e.g. Teotihuacan). *Spondylus* first arrived at Peru's central Coast from Ecuador during the Late Preceramic Period (2.700-1.500 BC). Ecuadorian balsa trees also provided a light and water-resistant wood used in making vessels known by the same "balsa" (raft) name, Propelled by a large square sail, the raft were equipped with large oars and wood planks inserted among the trunks acting as a hull.

Some researchers hold the rafts were capable of sailing from North to South against the Peruvian or Humboldt current, reaching Chincha, 200 km south of Lima, to deliver their precious cargo. Others suggest that before the introduction of the square sale, traveling against the current was

unfeasible, therefore proposing instead that only travel by land would allow trading with *Spondylus* sp., *Strombus* sp. and *Conus* sp. shellfish. Expansionist states like the Chimor, perhaps Lambayeque and certainly the Inca empire, may have even created colonies or enclaves and introduced some other institutional arrangement (as taxation in the Inca experience) to avail themselves of the prized mollusks.

Despite the arguments for more sophisticated navigational arts, the pre-Hispanic iconography of the northern Peruvian Coast shows only one-man boats used in river travel, usually pulled by swimmers, as well as the reed rafts used for fish-

ing near the shore. A local reed variety known as totora (*Schoenoplectus californicus*) is still used to build the peculiar one-man boats. After letting the reed dry for a month, it is woven into a sort of kayak. The rider kneels on the raft and rows out to the sea. Fishermen in the Pimentel district in Chiclayo are among the modern users of the ancient caballito de totora, or "totora reed horses" as they are called locally. The Mochica also seems to have used a sort of totora catamaran provided with a covered deck but with no sail. This vessel was large enough to carry prisoners and offerings to the site of the ceremonial sacrifice, usually a rocky island away from the shore.

## LA LIBERTAD

### The Moche and Chimu Kingdoms

Recent archeological findings show that the coast of the La Libertad department was home to ancient civilizations that in many respects were just as important as the Incas, Mayas or Aztecs. Most of their legacy is in the form of remarkable temples located only a few minutes from Trujillo, a city in northern Peru. This city, the department's capital, is 45 minutes away from Lima by plane (560 km) and lies 209 km from Chiclayo, following the northern Pan-American highway. Average summer temperature is 24°C and the weather is mild and sunny the rest of the year.

#### The Chan-Chan citadel

***Spreading over more than 20 square kilometers, the world's largest mud brick citadel was declared part of Mankind's Cultural Heritage by UNESCO. From a pure functional viewpoint, it resembles more the Egyptian necropolis at Gizeh than the walled cities of Babylon.***

Located almost at the city limits of Trujillo, Chan-Chan (or The Great Sun in the Mochica language) was the capital of the vast Chimu empire. Built between the twelfth and thirteenth centuries, it comprises palaces, residential quarters, cemeteries, gardens and platforms for religious performances surrounded by walls up to 13 meters high. Exquisite high reliefs sculpted with refined techniques depict geometric and animal patterns that evidence the unique artistry and complexity reached in the use of clay in Chan-Chan in association with the liturgy and customs of the dominant castes.

Located in the lower Moche valley, the Chan-Chan compound gradually expanded from an initial core in the Cayhuac citadel and the El Higo pyramid to eventually embrace a total of what seem to be 10 adjoining monumental citadels. Appearances, however, are deceiving. The high perimeter walls and the labyrinth of rooms around the main squares were in all likelihood built as palaces for the Chimor kings. After the death of each sovereign, the corpse was buried

together with his harem and some members of his retinue inside the platform monument built behind his residence. The surviving members of the dead king's household and other special attendants were charged with collecting tribute in kind and labor to keep the palace in good state of repair, thus ensuring the continuity of the post-humous cult to the dead monarch.

A total population of 26.400 residents has been estimated of which some 10.500 were handicrafts makers of both sexes. A vast network of irrigated farms and sunken field, as well as llama packs, ensured the uninterrupted supply of foodstuffs and raw materials. In Chan-Chan, like in the Egyptian necropolis, ample quarter for artisans and bureaucrats were located near the pyramids and funerary palaces to ensure the continuity of worship to the god-monarchs during hundreds and even thousands of years after their death.

#### Pakatnamu

***Sitting on a high plateau straddling the valley and the sea, Pakatnamu ranks among the most beautiful and largest of all Mochica, Lambayeque or Chimu sites.***

Protected by two large walls and deep precipices, Pakatnamu spreads over 1,5 square kilometers. It reached its present configuration during the Lambayeque period, and although the purpose served by its architectural layout is not perfectly clear to modern eyes, plentiful evidence of complex rites, including human sacrifices, suggests researchers this was a large ceremonial center, in some way similar to the Pachacamac oracle in Peru's central Coast.

#### Temple or huaca de los Reyes

***Upstream of the Moche river rises several temples that pre-dates Chan-Chan by more than 2.000 years. Huaca de los Reyes, a 200 Ha compound under the eight earth mound at the Caballo Muerto site, was built during the second millennium BC and required the labor equivalent of 350.000 man-days.***

Probably one of the political and religious centers of the Cupisnique civilization, Huaca de los Reyes is well-known for its sculpted, carved pottery often mistaken for Chavin ceramic. Judging from its Carbon-14 dating, the Cupisnique style may have spread beyond the valley only after Huaca de los Reyes was abandoned. In its final form, this group of three large platforms (each 160 by 120 meters at the basis and six meters high) located around a rectangular square is precisely aligned along the cardinal points. On its summit six temples of stone and mud mortar were built. A fine stucco plaster covers the walls, square-shaped 1,50 meters wide columns and the rooftops of the arches opening to U-shaped atrium. On the façade decorated with sculptured clay friezes, some well-preserved images clearly represent the heads of 12 mythical ancestors with mouths full of sharp jaguar fangs. Each of the complex head sculptures stands 2 meters tall is 1,80 meters deep.

#### Huacas of the Sun and Moon

***The kingdom of Chimor can be traced back to the Moche -for the name of the valley- or Mochica, as these people are called in the pre-Hispanic language of the neighboring Lambayeque department. The Chimor spread between the second and eighth centuries AD along 700 km of between the valleys of Piura and Huarmey.***

On the left bank of the Moche river, 8 km from the city of Trujillo, was located the main power center of the Mochica civilization, at the sol and Luna Huacas, as they are known today. The Sun Huaca- or temple- is the largest of all pre-Hispanic pyramids and compares by volume to the Egyptian pyramids at Saqqara. Its construction required some 143 million mud bricks. Unfortunately, a sizable part of this edification was destroyed by looters who in 1602 cut the pyramid in two by making the river's waters flow through its middle.

An impressive cross section left by the river waters shows the successive development stages of the pyramid, both outwards from the core and upwards from the basis. As other similar construction from pre-ceramic times, the Moche temples were subject to periodical renovations after their users had carefully covered with dirt the areas that were no longer in use. To build



*Huaca of the Moon, La Libertad  
Domingo Giribaldi / PromPerú*

the high platforms, they erected large rectangular molded-adobe columns reclining against each other. People from several groups must have contributed their labor as tax paid to the state to build the temple.

The pyramidal Cerro Blanco (White Mountain) is 500 meters away. At its foot stands the Huaca de la Luna or Moon Temple (95 x 85 x 25 meters) in sharp visual and ceremonial contrast to the Temple of the Sun. It comprises three independent ceremonial compounds, each possessing a system of restricted access ways, walled courtyards and roofed halls. On the walls, polychrome paintings and high reliefs seem to have been made only yesterday. At present, most areas are protected with roofs and provided with walkways for visitors. The temple's external walls are decorated with high relief motifs of fanged deities, with hair made of monster snakes ending in heads of marine birds. A Similar divinity guard

the main entrance to the central complex, flanked on each side by a sliding viper crowned with a condor head.

Both characters appear again in the scenes painted on Moche ceremonial pottery to describe myths and ritual practices. One of the personages is represented as a fisherman wielding his power over the seas. The other one appears as living in the heart of the mountains. Usually depicted as an owl or a spider in the company of baths, this divinity stands for the night and the netherworld. The knife and the head, he holds in his hand, shows his third for human sacrifices. Some scenes show the sacrifice of victims pushed downhill to kill them in his honor.

Some private inner temple chambers to which access was restrictive were also decorated with mural paintings, the most renowned among which depicts some scenes from the myth about the "rebellion of things" where the warriors' clothes and weapons rebelled against their masters, defeated them in combat and offered the prisoners' blood to a supernatural couple: a male god with an owl face and a woman with braided snakes as hair. Often, the woman is seen drinking from the first quarter Moon while sailing the sea, thus leading weapons, and processions of prisoners decorated the walls along the ramp leading into the main building.

Between the two Huaca temples there is a flat area long believed to have been a square or a vacant lot. Excavations have revealed that the area is in fact full of constructions. A whole city now hidden under the sand, it depended on the two temples for its livelihood. A broad avenue running parallel to the Moon temple channeled human traffic and divided the cult and the residential areas. Small squares with a single access point were surrounded by houses of several rooms. Next to them, the workshop produced religious paraphernalia, ceramics and metal objects. Its dimension and orderly layout give the ensemble a clear urban aspect.

### **The huacas at Cao (El Brujo)**

***Probably, the political and religious Mochica capital in the Chicama valley richer in water and farming land than the Moche area, was located in Cao where two pyramidal buildings sit on the shore facing each other. One, El Brujo -or The Sorcerer- stands out for the rich and well-preserved***

***polychrome relief scenes that cover the façade.***

On the wall surrounding the large square near the main building, images of dancing priests – wearing either a headpiece and crown that remind us of the feminine deity, or a frayed tee-shirt like male partner, the owl-spider divinity- are depicted together with the procession of naked prisoners tied with ropes around neck. A row of supernatural spiders decorates the top frieze of the façade. On the north-west corner of the façade, a small roofed room stands on a low platform. Its outside walls, the vestibule's walls and the ceiling were decorated with mythological scenes –mostly well-preserved- of ritual combats between groups of warriors.

A mythical deity attends these mythical representations against a nocturnal seascape. On a few ceremonial jugs, delicately drawn line-paintings narrate a sequence of rituals honoring the deity. Prisoners defeated in combat are taken on reed boats to the islands where they will be sacrificed by bleeding their jugular vein, an offering that the gods of the sea rewarded with plentiful fishing and sea lions for hunting. Possible these ceremonies took place totally or partially at the temple.

From the summit of the pyramid, the visitor will notice the difference between this and Egyptian or Maya pyramids. As in the Moon Huaca, the corridors and halls -some of which are covered by roofs resting on columns- follow each other at the top of the edification. Several are decorated with reliefs and painting of multiple colors. In some areas, the scary god of the world below wields his ceremonial knife and severed head. In other areas, three-story high walls preserve their intact decoration where we frequently see the face with snake hair and pointed fags.

Like in the Moon Temple, whenever the Cao temple had to be rebuilt, additional funerary chambers were built. Probably, the reconstruction itself was related to the death of an important bureaucrat or priest.

Unfortunately, for some reason the chambers were opened and their occupants moved elsewhere. The ceramic vessels found there, some of which are of exceptionally high quality, can be seen at the Wiese Foundation Museum in Trujillo. Another exceptional piece found there is a carved wood column with a capital depicting

a priest and two rampant felines facing him.

### **The temple at Pañamarca**

***For decades, the images of fierce warriors led to believe that the Moche culture was built on a purely military foundation.***

Results of recent research about Moche iconography have questioned this belief. Apparently, their religious cult and complex ceremonies revolved around the relatively peaceful relations among various ethnic groups who lived along the northern Coast. The complex power ideology, so characteristically represented in the rich Moche iconography, may even reflect the cohesiveness between one or several multiethnic Moche states.

As a matter of fact, the most important building on the Moche states' southern frontier was not a fortress but the Pañamarca temple located in the Nepeña valley. There, a set of elevated boulders of whimsical shapes merges beautiful with the sugar cane fields. These rocks were considered sacred by the users of Moche pottery (second to seventh centuries AD) and so they decided to build two pyramids – one small and the added walled squares and more elevated rooms. The site is well known for its large-scale mural paintings illustrating myths and religious ceremonies.

### **The Galindo pyramids**

***Weather changes recorded in the expansion rings of high Andean glaciers show that the seventh and sixth centuries BC were hard times for the residents of the northern Coast.***

The Moche culture knew very well to fend off the negative effects of droughts and catastrophic rains. Still, the political consequences of those phenomena must have been severe for the Moche rulers. Indeed, several clues point to sudden mass movements of population on the northern limits of the Moche area of cultural influence, both in the Highlands and on the Coast, announcing the emergence of a new cultural phenomenon: the Wari civilization. Quickly emerging new capitals, located in strategic places and equally distant from critical irrigation and defense locations seem to fit into this context. In the Moche valley, for instance, rulers made a decision to build a large settlement around imposing pyramids. Galindo, as the site is called, is surrounded by walls probably for defense purposes. Between the sixth and

eighth centuries of our era, Galindo undoubtedly achieved a greater political weight than the Sun and Moon temples. The Moche finally yielded to external pressure towards the end of the eighth century AD.

### **The administrative center at Viracochapampa**

***To better understand the cultural identity of the Highlands invaders who contributed to the end the Mochica civilization, we must travel deep into the mountain region of La Libertad, to a compound located some 2,5 km from Huamachuco.***

Viracochapampa is an architectural compound built to serve administrative functions in the Wari empire. Its size and design make it similar to Pikillaqta in Cuzco and Azangaro in Ayacucho. Walls about 2 meters high divide the large (581 x 574 meters at the base) trapezoidal area into squares, open areas and courtyards of carefully planned architecture.

Typically, the courtyards are surrounded on three sides by covered archways while the fourth archway leads to a rectangular room with niches on the walls. There has been with niches on the walls. There have been many debates about the function of this layout. The similarity with Greek, Roman and Renaissance urban layout led to believe these were also cities of the same kind but recent excavations show that the sites had a very short permanent population, despite their large surface area. Instead, the planned modules probably functioned as warehouses and lodging areas for the visitors who arrived to pay their tribute either in kind or in labor (the so-called mita)

An imposing aqueduct, 800 meters long, 16 meters wide and from 6 to 10 meters high, is probably related to this remarkable administrative center. The waterway runs through the entire La Cuchilla flatlands, the granaries and circular warehouses at Amaro Mountain and the monumental mausoleum at Marca Huamachuco. Evidence found in the region points to an independent cultural development antedating the Wari occupation which does not seem to have been very long (600 to 800 BC), because Viracochapampa was never finished. Although the ceramic and architectural findings leave no doubt about its relationship to Ayacucho, there is debated about the exact nature of this link. However, the preva-

lent opinion is that Viracochapampa was the provincial capital of an expansionist state with Wari, in Ayacucho, as its administrative center.

A religious system probably originating in Tiawanaku, on the shores of Lake Titicaca in Puno, may have been at the origin of the political doctrine upheld by the latter -often appearing in the kero vases and other fine ceremonial vessels- are characters with radiant headpieces followed by a retinue of bird-like attendants of Tiawanaku inspiration.

### **Ceramic portraits: faces of the Mochica**

***Amazing realism, expressiveness and varied and detailed facial features characterize the Mochica ceramic portrait vessels that are one of the most interesting and enigmatic aspects of Peruvian pre-Hispanic art.***

Exact replicas of human faces appeared only late and exceptionally in art. The dramatic realism of Roman republican portraits was probably born from the custom by the deceased person's relatives of wearing masks representing other dead relatives. Made using a wax mold taken from the dead person's body, the masks were subsequently kept in the family altar, thus may have been born the fashion of sculpting a truthful representation of human faces.

A different origin may explain the intricate balance between ideological representation and the unrepeatably naturalness of some Egyptian dignitary's effigies originally kept in chambers destined to funerary cult. They were principally meant to protect the shape of the body from decay and propitiate the return of the soul.

Due to their variety and expressiveness, Mochica representations stand at a par with the Roman figures and in number they equal Egyptian ones. We may wonder though about the identity of the characters immortalized by the ceramists. The list is long but definitely limited to the power elite. Among the characters we can perfectly distinguish sick people suffering multiple skin lesions, women with the unmistakable braided hair, and corps almost down to their skeletons. The pot-makers also made reproductions of supernatural animals and other beings, including their divinities.

This peculiarity gives us a clue to try and unveil the likely reasons driving Mochica handicraft

makers as well as explain the unexpected appearance of realism as away to depict the unique features of individual human faces. Most of these presumed portraits represent males who performed ritual functions as attendants and priests. They delivered the victims' blood to supernatural beings, carried rattles and banners, danced and took part in orgiastic heterosexual rites.

Contrary to conventional wisdom, effigies of dignitaries are infrequent and those that have been found correspond to supreme priests who preside over track competitions and other rituals from their comfortable seats at the top of the pyramids. Birds, felines or tassels decorate their fine turbans. Rulers are distinguished from priests by their war clothes and the helmet-shaped headpiece.

Numerous portraits show characters with loose long or short hairstyles who may be sacrifice victims and executioners of bloody rituals, like in the bottles with the stirrup handle used as deposits for ceremonial liquids and blood in particular.

Then why to make portraits of individual sacrifice attendants and their victims? Apparently this ceramics were not actual individual portraits in the western sense of the word -although their makers were undoubtedly inspired by real faces- but were rather type faces. The facial features, paintings, tattoos and details of the headpiece, earrings and nosering may have served to rank the person portrayed in the ceramic within a complex ethnic and political structure.

Mochica material culture and, in particular their icons, make us think of group of one or several multiethnic states sharing a common religious ideology. Ritual combats facing warriors from various ethnic groups or places, exhausting race competitions and human sacrifices served both as propitiation rites for the well-being of the community and for young people's initiation.

Almost surely, the expressive faces on Mochica bottles were not meant to remember gone relatives or to honor their rules. Rather, they were placed in tombs as a sign of the dead person's fully -entitled membership in Mochica society and who therefore was expected to perform periodically the roles ascribed to him by reason of kinship and political function.



## AMAZONAS

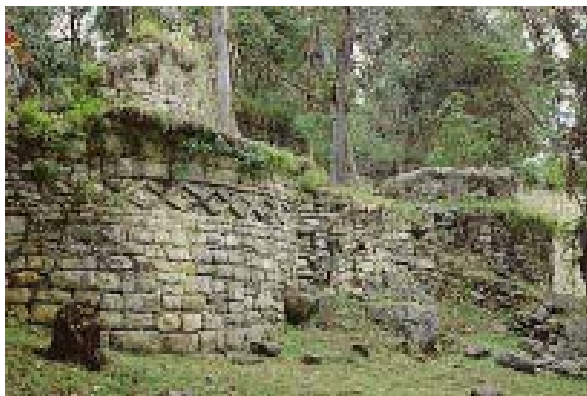
### A territory of lost cities

The department of Amazonas is one of the least known, but at the same time one of the most beautiful regions of Peru. More than 500 archeological remains- rock paintings, fortresses, sarcophagi and citadels- confer its landscape a mysterious and intriguing halo. It was the scene for the discovery of tens of "lost cities" in the second half of the twentieth century. Chachapoyas (2.334 masl) –the capital of the department- is 1.191 km from Lima and can be reached by car from Chiclayo. Always hot, with an average annual temperature of around 25°C, Amazonas is the best visited between May and September to avoid excessive rain and enjoy the lush vegetation.

#### The Kuelap fortress

***The most impressive tourist attraction in the North East of Peru is Kuelap, a gigantic monument of 400 million cubic feet of construction material, three times the volume of Egypt's Great Pyramid.***

The archeological compound is located on a rocky slope 3.000 masl and sits on two huge overlying artificial platforms built stone by stone. Most impressive in Kuelap are the huge defense walls (30 meters high by 600 meters long) around the so-called "lower town" and "upper town". Thousands of bromeliads render especial beauty to a construction entirely carved in limestone showing a variety of finishings, the best of which are definitely found in the sacred rooms. These ruins –584 by 110 meters at the base- are often compared to Saqsayhuaman and Machu Picchu, be-



Kuelap Fortress, Amazonas  
© Mylene D'Auriol / PromPerú

cause of their size and characteristics. Three entrances to the fortress, two to the East and one to the West, are designed as huge funnel-like hallways ending in a small opening to allow the entrance of just one person at time. Crag and precipices on three of its four sides make the fortress effectively impregnable.

Inside, the citadel is divided in quarters at different elevations, each comprising several dozen circular buildings of great artistic and esthetic inspiration. Stones are distributed precisely, complemented by rhomboidal friezes and high-reliefs figures, mostly anthropomorphic. Seemingly reserved to the Chachapoya chiefs, the quarters in the upper town have façades decorated with friezes in geometric fretwork. Curiously enough, the houses and buildings lack windows. Instead, they are protected by watertight stone roofs from the abundant rainfall, (frequent in this area). The visitors' attention is called to an extraordinary circular construction that stands out in the southern end. Known as the "ink well", this structures is almost 6 meters high and shaped as an inverted cone. Most probably it was destined to ceremonial use.

#### The mausoleums at Los Condores lagoon

***A high crag with a view to heaven-like Laguna Negra was where the Chaschas decided to build their huge funerary chambers.***

Six almost intact mausoleums have been discovered on one of the steep wooded slopes bordering Los Condores lagoon, one day and a half away from the locality of Leimebamba. They contain mummies -some in wood coffins- idols, wooden spears, abundant and varied pottery and suggestive rock paintings. Each of the funerary chambers sheltered a great quantity of bundles belonging to several generation of people probably related by kin. Ceremonial clothes with rich Chacha and Inca iconography were used as covers alternating with rags of simple cloth. Evidence shows that the same space had been occupied not only by the Sachapuyas (Chachas), but also by the Inca and Chimú. In fact, the Incas led by Tupac Yupanque conquered this region around 1470.

Chimu presence could be explained by the system of mitimaes (entire populations of settlers removed from their place of origin) that the Quechua used to control defeated populations.

Even for modern and expert adventures reaching Los Condores lagoon is no easy accomplishment, belying the apparently fluid contact there was between so diverse peoples. Swamps, Steep Mountain ranges dot the road from Leimebamba to the mausoleums partially shrouded by a water curtain that descends from the summit. The fast-flowing and crystalline river glows as it crosses the huge granite crags. Small and dense forests of ferns and orchids cling from the smooth walls at impossible angles. Tourists can learn about several aspects of this spectacular archeological area at the recently inaugurated site museum outside Leimebamba.

#### **PAJATÉN AND THE LOST CHACHA CITIES**

*Since the Gran Pajatén was discovered in the neighboring department of San Martín, many explorers have headed to this northeastern region to look for lost cities in the depth of the jungle. Later, the discovery of the Karajia sarcophagi, the expeditions by American explorer Gene Savoy to the Gran Vilaya and the finding of almost one hundred mummies in Los Condores lagoon attracted world's attention to Chachapoyas.*

The language they used was forever lost in the first year of the Spanish conquest, but linguistic research has found that there may have been a linguistic relationship between Inca place names typical of this area and the Chibcha of Colombia.

Although their pottery is undoubtedly related to certain types of ceramics in the lower Amazon, the more sophisticated monuments basically follow a clear Andean pattern. Apparently, the Chachapoyas ethnic group migrated from the Andes to settle in the steep mountain jungle, successfully repelling attack from neighboring groups.

This civilization's natural borders were the Marañón River to the West, the Huallaga River to the East, Bagua to the North and the Abiseo River to the South, in the present departments of Amazonas and San Martín. Although the Sachapuyas (from sachá: mountain and puyo: fog, after the constant cloud cover hanging over the area) settled in intricate jungles, the central artery of this civilization is undoubtedly the Utcubamba River. Exquisitely green, the river flows amidst a jungle landscaper of reeds, and molle and tara trees. After passing under two remarkable colonial bridges near its headwaters in Leimebamba, the river's course narrows to run flanked by towering mountains, until it reaches the broad plains around tropical Bagua, where its waters merge with the Marañón.

Since the valley is so narrow, the Sachapuyas built their main villages on mountain ridges, strategically controlling the main affluents to the Utcubamba River. Exceptionally conserved buildings still show us their exquisite architecture, including La Petaca, La Congona, Cerro Olan, Macro, Ollape, Gran Vilaya, Gran Pajatén, Kuelap, Karajia, Levanto and many others built between 900 and 1450 AD. that were still in use at the beginning of the Colonial period.

## CAJAMARCA

### North of the empire

Yanacocha is one of the largest and most modern gold mines in the world. Its forerunners date back to the eighth century BC, when the Cajamarca goldsmiths made sumptuous crowns for the priests of the ancient temple of Kunturwasi. The city of the northern Highlands, is 856 km from Lima (55 minutes by plane). That city can also be reached by land from Trujillo or Chiclayo (about 300 km west). Visits are recommended between April and October, the sunny season in the Highlands region of high humidity.

#### The Kunturwasi temple

*The oldest evidence of goldsmithing in Cajamarca comes from the old site of Kunturwasi (San Pablo district), where dwellers from nearby villages in the second millennium BC started to transform the mountain summit for ceremonial purposes.*

Representatives of the Cupisnique culture, from the Coast, probably settled in Cajamarca between

the eighth and second centuries BC. In any case, their pottery, goldsmithing, sculpture and architecture show several similarities with Chavin, a contemporary culture of the Highland area.

Imposing walls and stairways have changed the mountain into a pyramid with squares and temples at its summit. One of the platforms at the top was used to bury the members of the priestly elite. Crowns and other gold plate and embossed ornaments have been found inside the chambers.

Figurative motifs in the pottery are similar to those in the architecture: deities with impressive fang and/or eagle or owl features, or severed human heads. Visitors can see them at the modern site museum.

#### The "small windows" at Otuzco

*8 km of road separate Cajamarca from the Otuzco windows, an impressive ensemble of funerary niches literally carved on a rocky crag.*



*Little windows of Combayo, Cajamarca  
Carlos Sala / PromPerú*

Some of these holes are simple niches, others communicate with a corridor and through it, with niches carved in the heart of the rock mass. Ensembles similar to Otuzco's are found in Bambamarca, Quilcate, San Cristobal, Cerro Yanüil and a larger one in Combayo.

The tombs are completely depredated, and little is known about the rituals linked to them. The pottery suggests they were used by the Cajamarca Culture of the Late Intermediate Period (900-1470 AD).

### **The Inca's Baths**

***The pre-Hispanic site known as the Inca's Baths is 6 km from the city. It is an orderly set of structures, baths, canals and ponds of sulfurous water coming from volcanic hotspots.***

Historical accounts state the baths were a ritual resting place for Atahualpa, the last reigning

Inca. It was precisely there that the Spanish Conquistador arrived to capture him. The stone canal and piping system that mix hot and cold water and open to the public.

### **The Cumbemayo canal**

***An astounding canal that relies on relatively high humidity of the northern Highlands of Peru to collect and transport water along almost 8 km, even climbing upwards in some stretches.***

In Cajamarca, the highest part of the Andes is a grassland area or jalca that captures water like a gigantic sponge.

At a place known as Cumbemayo, 3.670 masl, a hydraulic system consisting of a 7,6 km canal, out of which 4,5 km are carved in rock, started diverting waters from the Pacific to the Atlantic basin 500 years ago.

## ANCASH

### The Origins of the Andean Civilization

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An exceptional trip along the coastline to Ancash awaits all visitors who wish to understand how about 4.700 years ago critical foci of sedentary life appears in the small valleys surrounded by one of the driest deserts on the planet, and of CHAVIN DE HUANTAR, the first cultural manifestation in the Americas rightfully deserving being called a civilization. Huaraz (3.050 masl), the department's capital located 400 km north of Lima and 200 km from the sea (Paramonga), can be reached through a paved road in excellent state of repair. Visits are best from April to October, and ideal from June to August.

#### Las Haldas and the Casma coastline

A beautiful ceremonial scenery makes Las Haldas the most remarkable of a string of temples – the first in the New World – that amaze us for their monumental proportions and early date, among which are Salinas in Chao, Aspero and Carral-Chupacigarro in Supe, and El Paraíso in Chillón.

Las Haldas ceremonial compound is located south of the Casma valley (300 km north of Lima) sitting on top of rocky outcroppings by the seashore. Four squares along a single axis facing an irregularly shaped pyramid, these buildings, featuring stone walls and clay mortar, were erected by people ignorant of pottery, other than making small figurines in raw clay. Nowhere else on Earth were primitive farming communities capable of sharing their efforts to such a grand scale. The compound's units effectively cover from 8 to 58 Ha and required mobilizing up to 100.000 tons of building materials. On the other hand, hamlets in the vicinity are smaller than one hectare. In Egypt, Mesopotamia, Central America and China, 30 or more centuries had to elapse from the emergence of agriculture to the building of the first initial religious temples that can be truly called monuments.

#### The temple at Sechin and the Casma valley

The earliest temples in the Americas are in Casma valley, a wonderful oasis surrounded by white sand dunes. At the fork of the valley, trav-

elers will find Sechin hill, one of the oldest examples of monumental art in the Americas.

A rectangular layout temple with rounded corners built over several centuries and in stages, during the first half of the second millennium BC, the Sechin temple features a stone covered façade depicting figurative low reliefs that envelope the whole construction. The entrance gate, symbolically protected by flanking warriors wielding their weapons and provided with sumptuous headpieces, leads to the elevated internal atrium, the sacred-most place in the building. To its sides, severed body parts (trunks, heads, vertebrae, limbs) spurt blood upwards to create a macabre frieze. Accounting for the impressive strength of this artwork are ritual combats where defeated combatants had to offer their lives and blood to ancestral divinities in exchange for the communities well-being.

The modern site museum near the temple exhibits reproductions of the multicolor reliefs and scale models of the buildings, introducing us to the valley's amazing ancient history, a place that for reasons still unknown to us is home to the largest number of monument compounds from the second and third millennium BC found on the entire Peruvian Coast. Further into the valley not far from the museum is the Sechin Alto compound – the largest temple built in the Americas in the second millennium. Its main pyramid (250 by 300 meters at the base and 44 meters high), like all pyramids of its time, grew in stages until reaching its present form.

During more than five hundred years, generation, people renewed the ceremonial center perhaps to inject new life to the deities. Courtyards, enclosed areas and roofed rooms from the old temple were carefully buried with landfill to build new areas for religious cult, in a process repeated at least once every hundred years. The front walls were covered with mud friezes (in the early periods) or granite blocks weighing up to two tons. Facing the imposing central pyramid are four rectangular plazas lined one after another along a 1.400 meter axis. Several smaller pyramids surround the main compound.

Pampa de las Llamas-Moxeque

**Not less impressive for its size, decorations and regular design reminding us of an urban settlement, is the Pampa de las Llamas-Moxeque compound (1800-1400 BC).**

An axis providing perfect symmetry over 1.100 meters connects the compounds three components: the large rectangular plaza in the middle and two imposing monuments at the ends. On the southwest, the step Moxeque pyramid features rounded corners and is 160 x 170 meters at the base and 30 meters high. Several smaller buildings and atriums at the top can be reached by stairs.

Obviously used as a temple, the building's façade is decorated by deep niches with sculptures of human figures up to 3,20 meters high made with clay in different colors.

A different type of pyramid (140 x 140 x 9 meters) is situated at the other end of the axis (Huaca A) in Pampa de las Llamas. A stairway cutting the façade at the middle leads to a labyrinth of roofed areas, with rounded corners and walls lined with niches.

Around 70 smaller rectangular buildings line up along both sides of the center axis all the way to the grand square. The monumental character and planning required in building the compound suggest this may have been the capital of the oldest kingdom in the Andes and the Americas.

**The Chavin de Huantar ceremonial center**

For reasons not yet totally clear, during the ninth century BC the large temples on the Coast were abandoned for good while two centers in the Highlands –probably oracles- gained the devotion of people both from the Coast and Highlands. They were Kunturwasi in Cajamarca and Chavin, in Ancash.

To reach Chavin we must first make a stop in Huaraz, capital city of the Ancash department. Ancash offers visitors a wide range of tourist circuits for nature, adventures and mountaineering lovers. In Huaraz visitors should not miss the Municipal Museum that houses an important

collection of Recuay civilization artifacts (0-700 AD). Beautiful multicolored ceramics, massive stone sculptures, and tenon heads illustrate the main elements of the religious and political life of a people that competed with the Mochica for the control of the Coastal oases. The war lords – dressed in richly decorated attire depicting their divinities – and the women in their entourage are the leading participants in these rites.

Chavin de Huantar, located at 3.150 masl in the upper Mosna river valley, is located half way between the Coast and the Jungle regions, separated from either by two towering mountain ranges. The Old Temple (eighth to third century BC) is particularly well preserved thanks to the semi-quarried stone used to build it. It comprises two pyramid-shaped bodies reclining on each other that were erected on a vast platform system housing a labyrinth of some 14 galleries. The temple's "U" shape was inspired by the sacred architecture of the central Coast with a circular plaza in the middle. The main gallery still houses the principal cult image: an obelisk called the Lanzon or great Spear. The New Temple resembles the constructions of its type found on the Coast and northern Highlands, i.e. a massive truncated pyramid with a rectangular foundation on top of which sit two chapel-like buildings placed along a façade adorned with a figurative portico. The similarities are no coincidence as proven by the offerings placed inside galleries by people who came from a radius of about 800 km, from Cajamarca to Paracas.

The fierce iconography on the Tello Obelisk – originally standing in one if the squares- gives us a glimpse of Chavin doctrines. It shows two mythical bird-tailed alligators of opposite sex joined in unnatural intercourse whereby they exchange body fluids flowing from their mouths, noses and genitals depicted as serpents. Their hind legs are placed below ground level while the forepaws rise to the sky. Their acolytes –the jaguar for the male divinity and the fishing eagle for the female deity – suggest the divine couple divides their power between the two confines of the universe: the jungle and the sea. If so, the image was an attempt at explaining the mystery of life and the eternal cyclical exchange of waters between the heavens, earth and the sea.

Another couple of supernatural beings guards the entrance to the New Temple, a portico divided into two equal segments, one light and the other dark, as if evoking the joining of day and night. Both are winged beings and of opposite sex: the male deity is shown as a hawk and the female as an eagle. Different classes of lesser gods are also represented in the Tello Obelisk, and on the plaques decorating the sunken small squares facing the façade, to thus configure a rich pantheon of mythical ancestors. The dual and four-some partitions (couples and groups of four characters in symmetric opposite arrangements) appear again and again as the guiding principles in the sculpted ornamentations.

Judging from its decor and layout, the temple was designed to mimic the universe and conceived as the fruit of the union of two portions of the world, complementary with and opposed to each other: one masculine and the other feminine, in conformance with the principle that guides the beginning of life itself. Each of the parts was in itself made up of two mutually critical halves because each needed its own day and night, its own rainy and dry seasons. Priests of the Old Temple descended inside the building to render tribute to the Great Spear god, lord of the netherworld whom they conceived as a feline-man emerging from the dark jungle to drink its victim's blood. On the contrary, the priests of the New Temple climbed to the summit of the pyramid to make offerings to heavenly deities (the male hawk and the female eagle). Building the temple at the joining of two rivers may not be a coincidence either. In the religious beliefs of Quechua-speaking peoples, this union –or tincumayo- symbolizes the strong driving forces

of the Wiracocha universe and is replicated in the night sky as the merging arms of the Milky Way, near the Southern Cross constellation.

Chankillo and the defense systems on the Northern Coast

***Chankillo –an easily reachable site on the Pan-American highway- was the stage of unceasing ritual combats to gain supremacy over land and other resources.***

Chankillo occupies the summit of one of the many barren hills on the fringes of the valley, right in the middle of the desert. Probably its construction dates back to the times immediately before the fall of this civilization, although it continued to be used after the fall of Chavin de Huantar in the last four centuries before our era. The structure is comprised of three high concentric walls all built of semi-quarried masonry of which some four meters from the ground have been preserved to our days. A total of five gates restrict access by means of diagonal walls that direct traffic sideways, and by fences. Symmetrical stairways allow access to the circus from the center of the edifice. Two circular towers and an eight-sided building stand out inside the defense circuit.

Together with other sites, Chankillo served as a defense line along the river banks of the Viru, Santa and Casma valleys. Casma also features a group of seven imposing walls, 5,50 meters high and as thick as 2,70 meters as the base, that run along hundreds of meters up and down desert mountains where they provided a backdrop for ritual where they provided a backdrop for ritual battles and young warriors' passage rites to manhood.

## HUANUCO

### A Barn for the Central Andes

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The Central Highlands and Jungle have been inhabited by Peruvians since remote times. The Lauricocha cave, for example, contains human remains, the oldest found in Peru, dating back to the last Glacial Period (10.000 years). Besides, the oldest temple in America –Kotosh- is also in Huanuco. Central Jungle geography characterizes a great part of the department that is the most accessible amazon region from Lima. The city of Huanuco (2.000 masl) lies 400 km from Lima, 360 km from Huancayo and 179 km from Junin. It is advisable to visit the region between April and October.

#### The Kotosh Temple

***Just 5 km from the city of Huanuco lies Kotosh (2.100 masl), a group of temples built with quarried stones joined with mud mortar in stage starting in the year 2.000 BC.***

Up to 11 buildings have been identified in some sectors, built in stages from the initial Ceramic to the Early Horizon periods. The temples are not large. On the contrary, they are rectangular constructions of curved corners not exceeding 20 m<sup>2</sup>. They are all oriented to the southwest. Inside, seats run along the walls and a circular fireplace in the central part is connected to the outside through a ventilation duct running under the floor. Some of the oldest constructions are the Nichitos Temple, the Crossed Hands name comes from two crossed arms modeled in mud on one of the building's inside faces. Similar constructions have been found elsewhere in Huanuco, in the highlands of Ancash and, recently, on the coast of the Kotosh-type temples' tradition, originating in the Eastern Highlands, seems to represent a very old religious ideology whose spread is still unknown.

#### The Huanuco Pampa Administrative center

Huanuco Pampa, the most important Inca center in the region, is located in Dos de Mayo, a providence about 150 km from the city of Huanuco. It sits on a plain at 3.800 masl over an area of 2.500 square meters. Among its remains, Huanuco Pampa, or Huanuco Viejo (old Huanuco), as it is also known, features the kallankas, large rectangular halls for state-organized functions. Also to be seen are the colcas or deposits for huge amounts of corn, tubers and manufactured goods. More than 500 circular and rectangular colcas have been identified. They have a total storage capacity of approximately 40.000 m<sup>3</sup>. These deposits are aligned along the slopes surrounding the site, and were built so that temperature and wind would create a surprising refrigerating effect in their interior. Huanuco Pampa was also a manufacturing center, where products were prepared and transformed for their further redistribution to the population, especially textiles, which were very much appreciated goods during the Tahuantisuyu times.

The Inca center had access to end control over a large variety of resources, as well as a numerous and well-organized population. Given its economic and political importance, Huanuco Pampa was connected to Quito to the north and to Cuzco to the south through the main road that ran along the mountain range and was part of the Capac Ñan, the great Inca road system. Huanuco Pampa shows a planned pattern of streets and buildings converging towards a large square in the middle of which an ushnu or ceremonial platform was built with finely-carved stone blocks. The ushnu is an architectural element of profound symbolic content present in many Inca administrative sites and related to a series of ritual and political events aimed at legitimizing the domination of new territories.



## LIMA

### Pre-inca archeology in the metropolis

Differently from colonial buildings, the main pre-Hispanic archeological remains in Lima can be found, as should be expected, outside the Historical Center of the city or in coastal valleys close to it. Lima, the capital of Peru, is located at sea level and virtually in the middle of the Peruvian Coast. Because of its importance as a port during the Colony, it is the only South American city located close to the sea. Its benign weather knows no seasonal extremes (12°C-20°C in the winter and 19°- 30°C in the summer) and varies little between the day and night, so it is a tourist city 365 days a year.

#### Temples or huacas In Metropolitan Lima

##### *Huallamarca Huaca*

An important archeological compound in the San Isidro district is the small Huallamarca go from the third century AD to the advent of the Incas in the fifteenth century. Apparently, Huallamarca was a ceremonial center used by a priestly elite, as shown by floors with little wear and tear. A long sequence of use and abandonment of the center reveals changes in the funerary habits over a long period of time. During the early intermediate Horizon (stages 3 and 4), corpses were wrapped in bundles covered with a mock head, a sort of mask made from fabric or painted wood.

##### **Pucllana Huaca**

***This huaca is located in downtown modern Miraflores district over a surface of about 5 Ha.***

An administrative and ceremonial center for the Rimac valley residents during the Early Intermediate Horizon (fifth to eighth centuries AD), it features a 500 meters long, over 100 meters wide and 22 meters tall massive truncated pyramid, built of small adobe bricks on a landfill. Besides, it is surrounded by a set of smaller equally remarkable areas, as well as rooms, hallways, courtyards and ramps with a fine plaster finishing, and in some cases painted yellow. The remarkable height of this ancient adobe building is evidenced when from its top the visitor can observe the sea the modern buildings surround-

ing it. Pucllana must have been the administrative center of religious and productive activities in the valley, as may be gathered from its architecture and the site. Archeologists have recovered textiles, pottery – decorated in red, white, black, gray and orange- rests of corn ears, beans, broad beans, custard apple, pacae fruit, and alpacas, llamas, guinea pigs, and ducks, as well as finished and mollusks from the Pacific.

#### **Huacas south of Metropolitan Lima**

##### **The Pachacamac oracle**

***Pachacamac, an ancient pre-Columbian oracle, dominates the fertile Lurin valley, 31 km south of Lima, and can be reached by the south Pan-American highway. This well-known ceremonial center amazed the Spanish conquerors and undoubtedly the Incas themselves when they arrived at the coast.***

Entirely built with adobe mud bricks, it ranked together with Cuzco among the main religious centers of pre-Hispanic Peru. Pilgrims from the most remote palaces arrived there from the most remote places arrived there to pay homage to the Pachacamac God, creator of the world and its creatures. The Inca section of the archeological compound (1440-1533) is the best-preserved area. The site includes palaces, squares and carefully restored temples and has a site Museum housing an interesting collection of artifacts. Pachacamac was a pan-regional religious center whose origins remain little known. It seems to have been built as an important center of power at the beginning of the Early Intermediate Period. Max Uhle, a reputed German archeologist, discovered a temple of that period whose facade was painted in red. This temple is known today as the Old Temple. Uhle's findings, especially pottery and textiles, feature motifs from the Highlands, which in many cases are of clear High Plateau inspiration. Another construction named the Painted Temple was built at a later stage, maybe at the end of the Intermediate Horizon (ninth to tenth centuries AD). The name comes from the remains of the frescoes on its walls.

During the ninth to fifteenth centuries AD construction speeded up driven by the powerful ide-

ology linked to the god honored at the side. The temple-palaces reminding us of the Near and Middle East zigurats and known as "ramp pyramids" date back to this time. Fifteen of these so called "provincial temples" have been identified. They were the fruit of the effort of several central Coast communities' efforts to legitimize their belonging to a surprisingly prestigious religion. The coexistence of temples from different periods during this time and the presence of offerings coming from coastal areas contribute to the hypothesis that Pachacamac functions as an oracle (European chronicler of the sixteenth century narrate that the supreme deity was the Earth god Ichma). When the Incas settled in the central Coast, they acknowledged its power and effectively included it in their expansionist policies. However, they also built a new sanctuary on the summit of the rocky hill: the imposing Temple of the Sun. From it we can observe the ceremonial center to the east and the Pacific Ocean to the west (as well as two nearby islands that have been Hispanic times). As a whole, Pachacamac represents one of the most important hubs in the long, complex and dynamic process of Andean regional integration.

Huacas north of Metropolitan Lima

The Paramonga fortress

***Paramonga, a terraced pyramidal of impeccable preservation, lays 200 km north of Lima and can be easily reached by the pan-American highway.***

The summit of a natural mound on the fringe of agricultural fields was completely transformed through the construction of five high layered terraces. Restricted access doors lead to the summit, where there is a solitary and small construction of four rooms. Characteristic pottery and large rectangular adobes dispel any doubts about its Inca origin while the defensive appearance is deceitful, because the building probably did not have military but religious functions. Incidentally, the compound is still one of the major Inca constructions on the coast, together with the pyramid of the Sun in Pachacamac that resembles this fortress because of its construction characteristics and colorful plaster.

**Huacas in the highlands of Lima**

**The "dead city" of Cajamarquilla**

***The next stop in Lima should be Cajamarquilla, one of the large urban centers in the Rimac valley, only comparable to the Pachacamac site in neighboring Lurin.***

15 km east of Lima up the Central Highway, Cajamarquilla lies in a gradually narrowing portion of the Rimac valley where hills become taller, steeper and numerous. Sitting at the crossing point of the main irrigation canal intakes that carry water to the fields downstream, Cajamarquilla was a regionally important center between the sixth and seventh centuries AD. The citadel itself covers 120 Ha on the left bank of the Huaycoloro ravine. The "dead city" of Cajamarquilla comprises pyramids, squares, streets, rooms and perfectly recognizable maze-like quarters sitting in the middle of a barren landscape, very well-protected from possible landslides occurring in the rainy season. Human burial remains in various quarters witness to the complex and dynamic life of the site. Artifacts found there reproduce the ornamentation typical in the valley and other motifs from the Coast and southern Highlands. Numerous underground silos were used to store food and supplies. Chicha corn beer was prepared in open courtyards for celebrating. Water systems met the people's daily needs.

Towards the eighth century AD, the place seems to have been abandoned, but a fresh cultural thrust brought it back to life. Gradually, the people of Cajamarquilla added several new buildings on top or by the side of the old ones, until the site reached its present disorderly aspect.

**Puruchuco**

***Puruchuco served as the residence and palace of the chieftains that ruled during and shortly after the Inca conquest of the Rimac river valley east of Lima, along the present Central Highway.***

Built with rectangular adobe bricks, the square Puruchuco residential palace is confined by a thick wall, 4 meters high and 60 cm wide, that surrounds a coherent array of rooms, courtyards and hallways, some for public functions and others reserved to private use.

The modern site museum houses valuable pre-Inca artifacts found in the area, and many others from around the Rimac valley.

## ICA

### Desert cultures

In Ica, Andean man from the Coast changed the constraints of the desert into life-giving opportunities through enhanced knowledge and technology that allowed him to make the best possible use of harsh water and weather conditions. Also, the art of these people flooded the monotonous landscape with color and profound enigmas. Ica, the department capital, located 300 km south of Lima and 104 km north of Nazca, can be reached along the Pan- American highway. The region can be visited throughout the year, because its warm weather (an annual average of 24°C) is amazingly bright and stable.

#### Tambo de Mora pyramids

*In the valley of Chincha (200 km south of Lima), we find Centinela Tambo de Mora, a series of pyramidal mounds, mostly from the Late Intermediate period.*

All the mounds are built with large blocks, except in the Inca section, where they were made with rectangular adobe bricks. The four roads departing from this site seem to have had a ceremonial character and served to communicate with other settlements in the valley. The archeological compound, extending over a surface of approximately 400 by 1.000 meters was probably the capital of the Chinchas, a coastal civilization reputed for its remarkable commercial and sailing skills.

#### *The Inca's residence at Tambo Colorado*

**Situated at only 566 masl and about 50 km from the coast, halfway between the Coast and the Highlands, this important archeological site is the most representative Inca settlement on the Peruvian coast.**

Tambo Colorado (250 km north from Lima) was probably the Inca and his retinue's residence in the central plains region. A large trapezoidal square enclosed by four walls with niches features platforms and benches to the south and west. Noteworthy is the small ushnu platform to the west that was used during Inca times for rituals.

Also outstanding in the residential sector to which restricted access may be gained through a double-threshold entrance gate (3.300 square meters). Inside, a series of rooms lies separated by courtyards and hall ways, two of which include ponds built with Cuzco style carved stones. Several rooms in this area are closed by painted fences (red, white and yellow), while some separating walls exhibit triangular and crenellated decoration.

Evidence of niches and trapezoid windows at different levels are accompanied by the remains of friezes depicting figures made of painted and high-relief mud decorations.

#### Paracas cemeteries

*Paracas (235 km south of Lima) is known for the beauty of the natural scenery, the richness of its funeral ritual, the quality of its textiles, and its advanced knowledge of surgery dating back to 2.500 years ago. Almost 60% of the patients who underwent cranial trepanations are estimated to have survived the operation.*

In 1925, Peruvian archeologist Julio C. Tello unearthed the first remains of the Paracas civilization. Their splendid fabrics- witnessing to a rich magical vision of this civilization's social life- were woven in cotton, the wool of South American ruminants or a mix of both, and decorated with brightly colored embroideries in woolen thread. One of the most frequent characters is depicted as a line drawing of bird-and feline-like human beings holding a scepter, severed heads, arrows, plants and various emblems. It is variously represented in standing and flying position, looking straight ahead or to the side. The oldest Paracas human remains date back to at least 5.000 years BC, attesting to impressively continuous human habitation in an oasis and desert environment that seems to have changed little in thousands of years. Around approximately 400 BC The peninsula started to look like a gigantic cemetery. Generation after generation buried their dead in the desert sand, thus turning the area into a land of the dead. Tombs were dug deep in the shape of a bottle. A large under-

ground chamber that could hold 30 to 40 individuals wrapped in fabrics was accessed through a long and narrow well. This configuration is at the origin of the Paracas Caverns name given to this stage of their evolution. Hundreds of these burials were found by Tello in the 1920s, fundamentally in the Cerro Colorado zone, near the present day Paracas site museum.

Towards 200 AD, funeral habits changed. At this new stage- Paracas Necropolis- the grouped individuals were interred at a lesser depth, frequently among the garbage in houses of former occupations, although always in funerary bundles wrapped in textiles, located one next to the other. Wari Kayan and Cabeza Larga, cemeteries of this type, provide many of the best evidence of textile art and pre-Hispanic surgery. The fabrics wrapping the buried corpses, a product of their creative work, were made of cotton using natural dyes. They are one of the most outstanding achievements of Andean techniques and aesthetics. During its complex history, the peninsula became also attractive for the inhabitants of neighboring regions. Pottery found in the Paracas Necropolis burials, specially the most recent one, shows a series of cultural patterns originated in the immediately neighboring valleys, Pisco and Chincha, area of the Topara culture.

### ***The Nazca Lines***

***Some of the world's most famous geoglyphs can be seen in the arid San José plains on the southern bank of the Ingenio river. On the barren, dry plain, the Nazcas, but also more recent occupants, carved geometric figures and animal silhouettes in a gigantic scale that has not been replicated elsewhere on Earth.***

Representations of spiders, humming birds, monkeys, reptiles, fish and other beings cover more than 1.000 square kilometers, some around 300 meters long, like the guanay bird (280 meters) and the pelican (285 meters). Among the human figures, the most enigmatic is that known as the extraterrestrial. Innumerable figures crisscross the plain, sometimes 30 meters wide and up to 9 km long. How these figures were made has been explained quite well. The desert is covered by a reddish film of dirt that has remained stable for thousands of years thanks to the absence of strong winds and erosion. Under this cover, the

soil is light yellow. This allowed the Nazcas to draw these large figures on the plain by simply removing the reddish film, generally a few centimeters thick, until they achieved a remarkable effect of light lines over a dark backdrop.

The design of figures at scale does not seem to have been a substantial problem if we consider that the methods of using grid patterns to design textile motifs, and laying out the ground to build temples and canals were arts which the peoples of Ica had known for long and at which they excelled. However, the meaning of these enormous representations is the subject of ongoing debate. For Maria Reiche, the German mathematician that studied them for more than 40 years, the lines were a gigantic agricultural and religious calendar. Others hold that they were just ritual paths. More recently, some hold that figures were a sort of "hydraulic map" of the valley. In any case, carving the Nazca lines was possible only through the joint action of peoples brought together by religion and faith.

### ***The Cahuachi ceremonial center***

***Nazca (200 BC-900 AD) is the name of one of the most famous pre-Columbian Andean civilizations. Reputed around the whole world for its fine pottery and for the enigmatic lines and figures drawn in the Palpa and San José plains, this culture saw its first development in the Rio Grande basin, about 400 km south of Lima and many kilometers away from the sea. Cahuachi spreads over 150 Ha of arid hills and dunes.***

The ancient Nazca people built their pyramidal temples by terracing the fossil sand dunes. In the lower parts, smaller architectural mounds, streets and squares give the site a general city aspect. However, this is a deceiving appearance because Cahuachi was a ceremonial center, a sacred destination of Nazca pilgrims between 100 and 500 AD. The ceremonies in the place included the construction of temples using thousands of conical or wedge adobe bricks. Each participating community demonstrated their true belonging to their religious community by singing, dancing and banqueting, thus explaining why in Cahuachi there is little garbage, while offerings abound (pan flutes and musical drums, sacrificed llamas and guinea pigs, fine textiles, human burials and pottery representing deities). The ceremo-

nial site, center of the social, political and religious life of the region, became very busy when the pilgrims arrived at a scheduled date to then recover its peace under the care of the priest and a very small care-taking population.

#### DEFEATING THE DESERT: THE NAZCA PUQUIOS

***The Nazca valley also has evidence of large hydraulic projects. Taking advantage of the water table, which was close to the ground, the ancient Nazca developed an underground filtering gallery system, known as puquios, to irrigate the areas lacking surface water.***

These clever galleries, known as puquios, successfully met the challenge of harsh water conditions in the valley's middle sections, a 15 km stripe where water can only be found underground. The lack of surface water is due to the fact that the Nazca desert is regularly interrupted by small valleys made up by the driest rivers of the Pacific Coast, which carry water only in the summer and even then irregularly. In these conditions, simple detouring canals are useless, because the river and its small tributaries torn into barren dry courses. Irrigation ditches are effective when the sloping ground can take the water

where needed by simple gravity, as in the valleys of northern Peru. But in the southern valleys, where the slopes are less marked, pre-Hispanic societies found other technological answers for taking water away from its natural course and defeated the ongoing threat of desert, made even worse by the strong winds blowing in the region.

By means of series of deep wells spaced every 20 meters, Ica people reached the water table. The wells can still be seen around. They were communicated by means of a network of a network of galleries for circulating water. Careful monitoring of the ditches' inclination and lining them with stones to minimize leaks allowed to bring water to the surface to finally store it in circular reservoirs or qochas, from which it was transported to the fields by canals. To date, 35 puquios have been identified, many of them still in use. Numerous galleries covered with boulders and roofed with large stone slabs and huarango tree (*Acacia machracanta*) branches are still seen in the area. Also, every 10 to 20 meters vents permitted air circulation and the periodical cleaning of the galleries. These were often built at more than 10 meters of depth over an average length of 500 meters. An exceptionally long gallery however reaches 1.5 km long and even runs under a riverbed.

## AYACUCHO

### The lands of the gods

**P**isco on the coast and the Highland of Huancavelica and Ayacucho have been traditionally linked by a flow of myths, gods, ideas, rulers and goods since the times of Chavin (400 BC). Standing along the roads connecting the two regions are the monuments that bear witness to successive stages of domination: the Spanish along the roads connecting the two regions are the monuments that bear witness to successive stages of domination: the Chavin, the Wari, the Incas and, finally, the Spanish conquerors. Ayacucho (2.750 masl) is reached after a 45 minute flight from Lima or after a 4-5 hour drive from Pisco (235 km south of Lima) through an excellent paved road. The most recommended visit time is April to October (with average temperatures of 8-16° C).

#### The Vilcaswaman administrative center

***Founded by Pachacutec in the second half of the fifteenth century AD Vilcaswaman, 110 km from Ayacucho (3.470 masl), was the first Inca administrative center in the Chinchaysuyu.***

The settlement of about 2 square kilometers comprises a large square and homes assigned to Tupac Inca Yupanqui and Huayna Capac, two late Cuzco sovereigns that lived here on a temporary basis. These are also two religious buildings known as the Temple of the Sun and the Ushnu sanctuary. Built in stone following the Cuzco Style, the Temple of the Sun is located at the south end of the square over three overlying platforms. The first, at the bottom, is crenellated. The second has large and small niches and lower. Its architectural characteristics make it the greatest sanctuary built during the Tahuantisuyu period. The temple of the Sun can be reached from the square up two flights of stairs 30 steps each. A Catholic church, San Juan Bautista, was built in Colonial times on top of the old Temple of the Sun. The Acllawasi or "House of the Virgins of the Sun" was behind the temple. A wonderful finely carved polygonal wall, ponds, canals and interior walls still stand.

One of its kind in the Tahuantisuyu, the other monument is the sanctuary or ushnu standing

on the west side of the square. An 8 meters high pyramid formed by overlying quadrangular platforms, it includes a fine gate with a double threshold in middle of the upper level, where there is a finely carved stone block. Chronicles state the rock was used to offer sacrifices to the Sun. The Inca's square was quasi-trapezoid and bordered by terraces on the east and north sides. About 1.500 meters south, some 700 deposits or qolqas were found by Spanish chronicler Cieza de León about 1548. A beautiful stone panel carved in fine cells can be seen on the eastern slope. It is 100 meters wide and three meters high. The "sacrificial stone" is in the same area. On one of its sides there is a hole from where two zigzagging gutters come out to embrace the stone before joining again.

#### The Wari Capital

***Wari -the first pan-Andean state- emerged in Ayacucho between 550 and 800 AD. Its capital, also called Wari, is located 25 km north of Huamanga, in the department of Ayacucho (2.740 masl).***

Wari is an example of urban planing and pre-Hispanic engineering techniques. Its urban core, stretching over about 400 Ha and home to 40.000 inhabitants, is located strategically to gain easy access to the central Coast and Jungle, while lying halfway between the northern and southern Highlands. To control these vast four regions, the Wari state built provincial administrative centers that depended on its capital. The most important were Pikillaqta (Cuzco), Cerro Baul (Moquegua) and Viracochapampa (northern Highlands). Wari controlled many colonies in different regions that supplied it with resources like turquoises, textiles, cotton, coca and corn. Wari is internally divided in functional sectors. Remarkable Cheqowasi sector or cemetery area, is a network of underground funerary chambers at several levels. Built with rectangular, circular and quadrangular slabs, these chambers probably hosted rulers and aristocrats. Another sector, Moradochayoq shows the earliest evidence of the site's occupation, and provides additional support to the hypothesis of permanent contacts with the Tiawanaku culture that evolved at the

same time 1.500 km away in the Lake Titicaca basin. This site comprises a small temple built partially underground with ashlar stone, strongly resembling the small Putuni (Tiawanaku) temple, also a partially underground temple. On the other hand, the central god of the Wari was the "god of the scepters", an adapted version of the Tiawanaku god represented in the so-called Gate of the Sun (Puno). A third sector worth noticing is Capillapata, a large group of trapezoid and rectangular constructions up to 400 meters long and with stone walls over 10 m high. Finally, the Ushpaqoto sector exhibits sculptures of modeled human figures. Evidences of workshops and warehouses have been found here.

### **The walleed city of Pikillaqta**

***Pikillaqta or "city of fleas", thus called because of the numerous four square meter rooms located over a hill dominating the beautiful Lucre lagoon (3.806 masl), is the largest pre-Inca city in Cuzco and is entirely Wari.***

One of the most representative Wari sites is Pikillaqta, this civilization's most important administrative center and symbol of the Wari state in the Cuzco region. At the same time, it was a ceremonial center and a place of residence for aristocrats, priests and temporary workers. A model of urban planing, the walled 50 Ha area was densely occupied for 150 years from 700 to 850 AD. Located 32 km from the city of Cuzco, Pikillaqta is built over large rectangular and square fields of restricted access. Streets and corridors connect the various areas separated by walls over 12 meters high. To the northeast, a remarkable compound comprising more than 500 standard-size elements can be entered only through one door. These rooms were used as temporary lodgings for visiting workers. Other sectors comprise two floor houses with painted and plastered walls.

### **The Quipus: A paperless bureaucracy**

***Bureaucracy inevitable makes us think of large offices crowded by bored workers who classify huge stacks of documents. It is even hard to imagine a state that will function without some sort of coded information. However, the well-organized Inca state did exactly that by resorting to Quipu memory***

***techniques based on the used of colored strings that were as efficient as they were sophisticated.***

And in spite of the demeaning modern connotation of the "bureaucrat" term, the first Spanish conquerors who saw the Inca State still at work had only words of praise for the efficiency of the state apparatus. How was this possible when writing and reading were apparently unknown to the Incas? Thanks to endless Andean creativity in handling information. The well-known Inca road network, the road inns known as tambos, the sending of encrypted information with quipus carried by teams to relay runners called chasquis, and the quipus themselves, together with specialized quipu interpreters known as quipukamayocs were all logistic arrangements within a highly sophisticated communication system.

Quipus, which earliest examples date back to the seventh century AD, from Wari origin, were basically numerical records where figures referred to quantities of nonnumber classes recorded in the quipu. These classes included population headcounts, farm output, important dates, capacity at state warehouses, quantity and type of products stored, and –of course–military service and labor time owed to the state. Handling of the data so stored demanded knowledge and use of all basic arithmetic operations, as well as more sophisticated mathematical operations including matrices and hierarchical functions. Quipus permitted to record, and then express, a symbolic numerical order at the very same level of abstractions as written narration.

The quipu's mathematical structure seems to have been powerful enough to allow encoding of mathematical propositions. In turn, the encryption key for a specific class could also be encoded and decoded by a quipucamayok, or master of quipus, elsewhere. Evidence suggests a standardized encryption process was already underway. If quipus were thus used, at least in some cases by specific users, then they were indeed evolving into a writing system.

### **Quipus and numbers**

Quipus were made with a main cord from which other secondary strings hang. Hanging cords were organized in several subclasses separated

by a gap in the primary cord, and organized by color pattern, type of thread and other distinctive marks. Non-numerical class markers referred to specific categories. Each set of hanging cords was in turn attached to a higher-level cord running in the opposite direction to the hanging cord. This cord gave the set's total. Additional subsidiary cords were tied to the hanging and higher level cords, and so on.

Number information was represent by the form and spacing of knots in the hanging cords. The

knots required from two to nine turns, each turn standing for digits from two to nine, while an "8" shaped knot stood for number one. Digits were knotted at the furthest end of the primary cord. Bundles of simple knots tied together stood for figures to the power of 10. The higher on the string, the higher the power. For instance, two knots together, one level above the primary digits meant 600 and so on. Zero was represented by the absence of knots in the corresponding numerical position.



## AREQUIPA

### The geography of high altitude sanctuaries

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Usually known for its elegant and sober colonial architecture in ashlar stone, and for the incomparable agricultural terraces in the Colca canyon, the world's second deepest, Arequipa has more recently caught the world's attention as its volcano-dominated geography has emerged as a scenery for amazing archeological sites. The city of Arequipa (2.350 masl) can be reached by plane from Lima (1.021 km away) in 60 minutes, Cuzco (516 km) or Juliaca, in Puno (281 km). Visits to Arequipa will be most enjoyable between April and October when temperature fluctuates between 8°C and 16°C.

#### The Lady of Ampato

***Named "Juanita", out of affection, this mummy of an Inca young girl about 14 years of age was found in perfect state of conservation on the summit of the Ampato mountain (6.310 masl). The study of her remains will provide us a better understanding of the habits and diet of ancient Inca empire populations.***

Juanita lived 500 years ago, when she was sacrificed on the Ampato glacier (patron god of the region), probably to stop the anger of the Sabancaya volcano that was erupting at that time. The sacrifice Qapac Cocha ceremony started at huacaypata (Cuzco's main square) and was dedicated to a number of sacred mountains, islands and other magic places around the Tahuantinsuyo or Inca Empire.

Healthy and beautiful children between 5 and 15 years of age chosen from different villages in the four suyus or regions of the empires were sacrificed as the close to the rite. The victims were buried together with human figurines, miniature animals, pottery and jewelry to ask the huacas for good health for the Inca and stronger relations between Cuzco and the provinces. Archeological evidence of this ritual has been found in numerous high altitude Inca sanctuaries, some as distant as the Aconcagua glacier in Chile.

## CUSCO

### The empire of the incas

The Incas were the most advanced political, economic and cultural entity in Andean pre-Hispanic evolution. They were also a powerful civilization that spread its domains to the kingdom of Quito and much of Chile and Bolivia. Building on former complex societies like the Wari civilization, they founded their capital in Cuzco (1.200 km southeast of Lima) and built provincial administrative centers along more than 4.000 km. They have left evidence of a complex military, theocratic and patriarchal State with great political and religious power. When the Spaniards and the new epidemics brought by them reached Cuzco, the empire, already undermined by a fratricidal war between Huascar and Atahualpa, collapsed. Cuzco (3.400 masl) is located 1.200 km from Lima (a 55-minute flight). The recommended visit time is from April to September (dry and sunny weather). However, it must be noted that temperatures in the region change considerably according to altitude and time of the day.

#### The main square or Huacaypata

*According to legend, Cuzco (3.500 masl) was founded by the mythical couple of Manco Capac and Mama Ocllo. Large scale remodeling, around 1438 AD, was the work of the tenth historical Inca Pachacutec, whose name stands for "cataclysm", "crisis", "transformation". Works followed an urban layout representing a puma. The animal's womb was the huacaypata square dividing Cuzco in two halves from which four roads departed, thus allegorically separating the area into four large spaces called Chichcaysuyu, Antisuyu, Collasuyu and Contisuyu, the four suyus or major regions that made up the Tahuantinsuyu empire.*

The monumental sector, located beneath Sacasayhuaman, occupied a triangular space, which- imitating the shape of a puma- spreads between two rivers, Tullumayu and Saphi. The sector include 11 palaces grouped around two centers, as well as trapezoid square, presently the Plaza de Armas, the residence of women (acllahuasi) and the temples of the Thunder (Hatun Cancha) and Viracocha or Marker of the World (Quishuar Cancha), destroyed at the be-

ginning of Colonial times and where now stands the Cuzco Cathedral. In Hurin Cuzco (the lower quarter) lived the supreme priest. There were Limacpampa square and the Temple of the Sun (Coricancha). Residents in the upper quarter held the social supremacy in the city. Diarchic government was reflected by this dual distribution.

How the palaces looked can be gathered from the existing remains. Each group contained wide courtyards (canchas), rooms surrounded by smaller rooms, and long roofed buildings reminding of a basilica (Kallankas). Except for the Sapan Inca residence, the palaces were inhabited by the members of panacas, that is the families of dead Incas.

Other members of the Incas elite and the non-Inca population residing in the capital lived in village-like settlements, scatters among the terraces, canals and agricultural fields distributed around the monument center. A very complex institutional system forced all of Cuzco inhabitants to maintain 328 sacred spots (huacas) including rocks, springs, caverns and religious constructions scattered within and beyond view.

#### The Coricancha temple

*The most important and sumptuous temple in the Tahuantinsuyu was the Coricancha or Temple of the Sun, which occasionally sheltered images of Thunder and Wiracocha, deities brought from different regions, and mummies of Inca kings.*

The temple's inner ritual was restricted to priests, the Inca and the aclas. Its only entrance was on the north side and it had a central courtyard surrounded by buildings made of fine stonework. Curving walls and a series of springs and terraces can be seen to the southwest. Gold sculptures representing at certain festivities. Stone rooms were covered with gold and silver plates. Imaginary lines (ceques) radiated from this temple, linking the huacas and serving as reminders of dates and places for the ceremonies. At fixed dates, representatives of non-Inca populations arrived in Cuzco from all over the empire to adore and play tribute to the Tahuantinsuyu

gods.

### **The Sacasayhuaman fortress**

***Built over a hill to the west of Cuzco by tens of thousands of workers provided only with a few metal tools, the fortress sheltered a temple to the Sun built in carved stone.***

Constructed during the Tupac Inca Yupanqui, Huayna Capac and Huascar reigns, this huge fortress comprises a series of staged platforms on the north esplanade that deserves the visitors most especial attention. Its cyclopean architecture required using huge and heavy carved stones that fit each other in almost invisible joints. Each of its three platform levels is over 200 meters long. At the summit, a series of buildings and terraces include three circular buildings comprising three concentric rings of walls. In this same sector were the Temple of the Sun and warehouses for weapons, soldiers' clothes, base metals, silver, gold, covers and war materials. Other equally complex and interesting sectors complete this monumental site. In the sector known as "the slide", carved stones in the shape of small altars and ramps deserve attention. These are vestiges of an artificial circular pond for ritual use, as well as several water canals and underground passages, with niches and small stairs carved on the walls. A huge carved stone called the "tired stone" finishes the list of remarkable sights.

### **The terraces**

***Among the greatest achievements of Inca engineering were the agricultural terraces built to feed an estimated population of some 10 million inhabitants, basically with potatoes and corn, two crops that later became part of the world's diet.***

Built by cutting the mountain sides in the shape of stairs, the terraces were separated by pirkas or stones walls, and filled with fertile soil to achieve the optimum use of rain and water.

A blending of resistance and functionality, the terraces helped to prevent landslides caused by rains in deep and narrow Andean valleys where the surface area of land that can be irrigated is severely limited. Besides, during the rainy season, downhill runoff seriously jeopardizes farming fields and valley populations. Pre-Hispanic Andean societies solved both problems by build-

ing terraces on both sides the valleys. During the Inca period extensive terracing work led to reconfiguring and leveling whole valleys. Terraced agriculture meant more dense farming and higher, less fluctuating yields. By providing more land suitable for farming, terraces probably of New World crops.

Terracing may have started as long ago as 900 years BC on the banks of Lake Titicaca. Since 300 AC the construction of terraces for agriculture spread until it covered a large part of the central Andes, and it boomed during the empire as part of a systematic state policy for improving land and expanding colonies that was in force until just before the European conquest. Spreading corn and associated irrigation techniques was seemingly the reason for building terraces in Andean valleys. Above the upper altitude limit for growing corn (3.200 to 3.500 masl), rainfed farmland in the higher valleys and in the high Plateau was devoted to other staples like tubers (potatoes, oca, olluco) and local cereals (quinoa, cañihua). Certain terraces kept as family gardens were probably reserved to special varieties of some food crops, spices and medicinal plants, or to species of ceremonial meaning. On the eastern slope of the Andes, a special class of terraces was devoted to growing coca, considered the "mother plant".

### **The moray agricultural laboratory**

***Only 38 km away from Cuzco, almost a half hour drive, are the mysterious four circular terraces of Moray that resemble gigantic finger prints on a high plateau at 3.500 masl.***

As Recent research has shown, the terraces at moray were used for adapting plants to new weathers and environments, and are additional proof of the highly sophisticated level of agricultural knowledge reached by the Incas. At the experiment station, the large conic depressions 47 to 84 meters deep cut in limestone made it possible to replicate on each terrace's depth.

Resembling a sunken amphitheater or an artificial crater, the terraces were built by erecting containment walls filled with fertile land and provided with complex irrigation systems. Temperature differences between the top and bottom of these depressions permitted using each terrace for adapting many different plant varieties (more than 250 plant species). The Incas are reported to have organized the agricultural produc-

tion throughout the Tahuantinsuyo from the experience gained at the moray site.

### **The aqueducts of Tipón**

***This beautiful compound of agricultural terraces, long stairs and stone canals is located 20 km south of the city of Cuzco.***

Apparently, Tipón was part of the royal estate belonging to Inca Yawar Huaca, and at the same time, a place devoted to religious adoration and agricultural experiments. The site's functional and aesthetic harmony, typical of Quechua architects, is remarkable. They drove the water through fine stone structures, either in the form of aqueducts- some of them underground –or canals, falls and spillways.

### **The fortress and town of Ollantaytambo**

***The fortress of Ollantaytambo (2.846 masl), located at the end of the road Sacred Valley of the Incas, 61 from Cuzco, was named after the legendary Ollanta, a chieftain famous for his romance with a princess, the daughter of Pachacutec.***

Ollantaytambo is divided in two sectors, according to the dual Hanan and Hurin scheme, separated by a rivulet (Patacancha) that flows north to south along an old Inca canal. The upper sector occupies a hill and part of the rivulet's banks, where there is a large square and a series of adobe brick and stone rooms. A beautiful stone known as the "Ñusta Bath" can be seen to one side of the square. The top of the hill can be reached by stairways built between terraces. At the summit, we find plastered-wall rooms, the Temple of the Sun and other fine buildings of cyclopean size. Finally, a half-finished wall of finely polished and carefully fitted stone blocks featuring high relief motifs found between the Kachijata quarry and Ollantaytambo reveals that the building process was suddenly interrupted. The site is completed with ponds, carved rocks and several hectares of agricultural terraces with their respective canals and stairways.

Large courts with four rooms and a courtyard separated by stone streets and squares of orthogonal design like a chessboard form the lower sector. The peasants who live there today have not modified the original quite closely a small urban center of Inca times. The best preserved area, to the point of being a living museum, spans the

four streets parallel to the stream, with their respective crossing roads, making up a total of 15 blocks of houses built over old carved-stone walls, located north of the main square. Careful attention should be paid not only to the area's design, but also to the Inca-epoch walls and even the interior of houses. After a while, visitors will feel transported in time. Ollantaytambo boasts restaurants, hotels and horse and mountain bicycle rental services. A dirt road climbs up to the Málaga opening (4.200 masl) and dives into the High Amazon forest, crossing villages like picturesque Huilloc, the some of renowned wayruros or porters.

### **The royal estate of MachuPicchu**

***Peru is known all over the world for Cuzco and Cuzco for Machu Picchu. Because of its incomparable beauty, its harmonious landscape and the spiritual strength it transmits, this Inca citadel has the privilege of making part of that chosen group of world class monuments that millions of people in the five continents dream of visiting.***

In July 1911, an American scientific expedition led by Hiram Bingham arrived at the Urubamba river canyon, a warm and humid region of large vegetation. The majesty of a landscape combining distant glaciers and gigantic ravines that poured their waters into the quiet river amazed the expeditioners. Bingham was obsessed with discovering Tampu-Tocco, the mythical city of the first Incas reported by some chronicles. On July 24, after a difficult ascent to the mountain known by the place's inhabitants as Machu Picchu (2.350 masl), Bingham discovered among the vegetation an extraordinary compound of ruins. The explorer thought he had found the lost capital of the Incas, without imagining that instead of solving a mystery he was unearthing another one that would last throughout the twentieth century. If that citadel with buildings as gorgeous as the most beautiful ones in Cuzco was not TampuTocco, what was it, then? Why did the chronicles fail to write about this marvel of Inca architecture? The powerlessness of science to answer these questions made the mystery grow even more and the most imaginative theories were proposed.

The territories where Machu Picchu is located were conquered by Inca Pachacutec, the ruler who had the merit of converting the small Inca

kingdom, which did not reach much beyond Cuzco, into a vast and powerful empire. Pachacutec ordered the construction of Machu Picchu as proof of his military exploits. Moreover, he had done likewise before when, younger, he conquered Pisaq and Ollantaytambo. Subsequently, remarkable Inca buildings were built there.

Pachacutec lived in the memory of his people not only as a wary conqueror, but also as a great constructor and as the ruler that reformed religion and organized the official ritual to their minutest details. This argument supports the theory that Machu Picchu was a place its creator deemed appropriate for the adoration of imperial gods. In fact, beside the finely finished buildings, suitable for the residence of a ruler, there are many others presumably destined to religious functions. The place's topography was characterized by rocky cone-shaped peaks, caverns, snow-capped mountains. It is located at a tight curve of an impressive canyon combining essential features for a religion that focuses on the relationship between man and nature.

Pachacutec likely visited the citadel of Machu Picchu sporadically. Apparently several families of royal lineage lived there, as well as priests and priestesses that adored the sun, the snow-capped mountains (apus) and natural phenomena. The site's dwellers did not exceed one or two thousand in number and lived off what was grown in the terraces surrounding the citadel and on the slopes of neighboring mountains, like Wiñay Wayna. When the Spanish conquest came about, a sacred place, which could only exist as part of a highly organized State, lost its reason for being. Not only the victorious gods had changed, but also the farmers and servants that fed the priests, who came from very far away lands, as it was usual in the Inca empire, felt the moment had arrived for them to return to their places of origin. On the other hand, it was natural for conquerors not to value a place like Machu Picchu: the Inca agricultural compounds, a prodigy of agricultural science and hydraulic engineering, interest them only as they felt safe, or close to large tribute-paying populations. Thus, the sanctuary was swallowed by plants and oblivion which, paradoxically, permitted its conservation to present.

By far, Machu Picchu is the most important tourist attraction in Peru. It is located three hours by train from Cuzco, although it can also be



*Machu Picchu Citadel, Cuzco  
Terra Incógnita / PromPerú*

reached by helicopter (30 minutes) or by foot (4 days down the Inca Trail). Considered one of the world's most extraordinary landscaping works, Machu Picchu looks down the summit of a mountain overlooking the deep Urubamba river canyon, in the middle of tropical forests. It is comprised of two large areas: an agricultural one and an urban one. The first is basically formed by five groups of terraces irrigated with waters descending through canals and ponds. It also has food warehouses and lodging for the farmers. The second comprises the sacred area, with temples, squares and royal mausoleums carved to exquisite perfection, like the Temple of the Three Windows, which commemorates the mythical origins of Inca founders coming out of the three sacred cavern of Paqarictambo. Notable among adoration places, are rocky outcrops and carved stones, usually called intiわたanas, which have astronomical and religious functions. A sacred stone, characteristic of important Inca centers, sits in the main square. The set is completed with priest's houses, hostels for pilgrims and tombs. The stairways, streets, hallways and carved stone canals can be seen everywhere in this archaeological site right across from the spectacular Huayna Picchu mountain that may be reached up a steep stone-paved road.

### **The Qenqo and Tambomachay sanctuaries**

***Two places surrounding Cuzco that stand out for their ritual architecture are the sanctuaries of Qenqo and Tambomachay.***

Qenqo is a huge rocky mound with carved stairs, holes and gutters, probably made to deposit chicha (corn beer) drunk during Inca rituals. This site is completed by a semicircular courtyard defined by an isometric wall with several large

niches that surround a thin stone slab or wanka enclosed in a chamber, like an image inside its own chapel.

Tambomachay is a very remarkable place of refined architecture made up of platforms, niches and ponds still used today. The spillways carry water from a higher spring. In Inca times, it was a secret place devoted to the adoration of water, and one of the sanctuaries comprised in the ceques system of Cuzco.

The most important huacas in the Cuzco area can be seen from Tambomachay. One of them is Huanacaure, a sacred mountain that played a transcendental role in the mythical foundation of Cuzco.

#### **The living Inca village of Chinchero**

***Built at the time of Tupac Inca Yupanqui, Chichero is a compound of squares, ramps, terraces and finely carved stone chambers. The remarkable terrace built with carved stones bordering one side of the main square will not go unheeded.***

To have the village built as a place of rest and merry-making, the Inca donates houses to Cuzco aristocrats and kept some houses to himself and the royal family. During Colonial times, the present Catholic church was built over what probably was a temple of the Sun. Its altar is covered with gold leaf and its walls are decorated with paintings of the Cuzco school. The site gathers people from different places who come every Sunday to barter subsistence products. Both men and women of the numerous communities attending the Sunday fair wear colorful and varied clothes.

#### **The religious hub of Písaq**

***This Inca site, located at 2.900 masl in the middle valley of the Vilcanota river or Sacred Valley of the Incas, sits on a small mountain on whose slopes and summit its occupants built beautiful buildings and terraces.***

Písaq is an exquisite example of engineering for land and water management and the transformation of a natural landscape into a cultural one. The Intiwatana and Písaq sectors are among the main constructions. The sacred Intiwatana (sun

clock) sector comprises carefully built buildings, terraces and ceremonial ponds. A small semicircular chamber stands out in this sector for its elegant wall enclosing a small rock outcrop, carved on its sides and with a bulk in the center, to which tradition ascribes the function of a sundial. The Písaq compound is remarkable for the disposition, shape and standardized sizes of the buildings, which are grouped around small courtyards of restricted access through double-threshold gates. These buildings form the Acqllawasi, or dwelling of the virgins.

#### **The Raqchi temple**

***The largest and most beautiful temple built to commemorate Wiracocha Pchayachachi (maker of the wall) is found along the road to Sicuani (119 km south of Cuzco) in San Pedro de Cacha (3.485 masl).***

Raqchi had a great reputation as and was an important destination for pilgrims, a fact that explains the warehouses and other buildings around the temple that served as dwellings for priests, servants and the populace. Its rectangular layout with four large walls (92 m long by 25 m wide) features two entries on the south side and an altar in the side opposite the doors. Inside the temple, there is a longitudinal diving wall made of delicately carved stone and adobe bricks over 12 meters high. The internal structure is completed with 22 cylindrical columns made of carved adobes and holding the roof of this chamber more than 2.300 square meters large. Its walls were plastered and painted red.

#### **The Choquequirao fortress**

***The Manco Inca dynasty resisted the Spanish conquerors during 40 years (1536 to 1572) from this fortress in the Vilcabamba area. The Spanish conquerors were never able to expel them from it.***

The building of Choquequirao is the work of Inca Pachacutec successors Tupac Inca Yupanqui (1471-1493) and Wayna Capac (1493-1527). Household and ceremonial pottery has been found here that bears both the classic Cuzco style and also from other populations who came to live here to build and permanently populate the area. Most likely, they were experienced farmers who knew how to build and use farming terraces in

high Amazon forest areas. Located at 3.050 masl on the border with department of Apurímac, the Choquequirao archeological compound was not built to be a place of easy access. Reaching it demands two days of disciplined march, largely compensated by the beauty of the landscape that wayfarers cross from the beginning of their expedition.

The road starts at Cachora (2.300 masl), a small town in the Apurímac department, after traveling four hours on the mostly paved road from Cuzco (145 km paved and 10 km of dirt road). Mule packers can be contacted there who can also act as guides. A local family offers accommodation and the only telephone in town. Approximately 40% of the Choquequirao Inca ceremonial center has been cleared of vegetation. The remaining area is formed by a complex terrace system built on extremely steep slopes. A very impressive stairway of 180 terraces has been recently spotted. It descends from one of the ceremonial center flanks and reaches the river open to swimming.

Choquequirao was probably one of the entrance check point to the Vilcabamba region, and also an administrative hub serving political, social and economic functions. Its urban design has followed the symbolic patterns of the imperial capital, with ritual places dedicated to the Sun (Inti) and the ancestors, to the earth, water and other divinities, with mansions for administrators and houses for artisans, warehouses, large dormitories or kallankas and farming terraces belonging to the Inca or the local people. Spreading over 700 meters, the ceremonial area drops as much as 65 meters from the elevated areas to the main square.

### **The Inca Trail: The Great Link to The Continental Andean Universe**

*Not only did the Inca roads symbolize the power of the state around a space articulated by 23.000 km of roads, but were also the link between the real and the supernatural, between the earth and the goals within a cultural universe spanning from the north of Argentina and Chile to the Venezuela plains.*

At kilometer 88 of the Cuzco- Quillabamba rail-ways is Qorihuayrachina, the starting point of

one of the most famous trekking routes in Peru. During four days of journey, trekkers cross various altitudes and environmental systems between 2.800 and 4.000 masl, while at the same time enjoying a spectacular view of the most impressive glaciers in the region. Before reaching Machu Picchu, the Inca Trail goes through the beautiful citadels of Phuyupatamarca and Wiñay Wayna among other 16 archeological compound. The 40 km route ends at the relaxing hot springs in Aguas Calientes (2 km from the train station).

Two large longitudinal roads make up the Inca road system. A coastal one, from Chile to Tumbes. The other one, paved with stones, was the kingdom's backbone linking Cuzco to Quito through the Highlands. It was equipped with gutters, bridges, containment and defense walls, elevation ramps and stairs in many stretches. The great road or Capac Ñan was at some places 16 meters wide. In other segments the road had two lanes, one paved and wide for the Inca, and the other, a narrow dirt road for the cargo and his assistants. In the southern coast, at Quebrada de la Waca, we can still see a road across the Andes for transporting fish from the Coast to the imperial capital.

Most important among all roads, however, was the so-called Chichaysuyu road. Built during the reign of Tupac Yupanqui, it was the largest state undertaking during the imperial phase of the Cuzco Quechuas, when the Cañari territory and the humid northern highlands were annexed to their social organizations which permitted them to develop an admirable road technology that took advantage of previous designs and that, ironically, was a precious gift to their conquerors.

In its northern portion, the Capac Ñan from Cajamarca to the Ecuadorian province of Loja, the road passed by the Mariviña and bola warehouses. In Cuenca, a place of admirable roads, the largest warehouses were at Tambo Blanco, Tomebamba itself, Paredones and Ingapirca, in the area called Hatun Cañar.

The Incas' arrival at present-day Ecuadorian territory brought about the transformation of social space. Work was organized following a revolving system for supplying goods and service to all state structures, roads and warehouses. The road's superb characteristics were constantly

maintained through the system described above and road building during the most recent and highest stage of Inca expansion.

To the south, the roads were those in the *contisuyu* and the *Collasuyu* that the Incas split in two, the *Umasuyu* and the *Urcosuyu* on the eastern and western borders of Lake Titicaca. Connecting roads linked main ones. Large, circular royal warehouses can be seen along the present border between Arequipa, Puno and Cuzco (the *Contisuyu* and the *Collasuyu*). A church built on Inca foundations reveals the warehouse was still used in Colonial times for wine and people traveling between Arequipa and Cuzco.

Historical information is readily available about this road system such as that related to the technology used in the bridges, traffic, orientation and maintenance system. But there is other less evi-

dent information. Journeys were organized so that there would be a *tambo* or travelers' inn approximately every 30 km. Larger royal inns were almost palaces, with warehouses for food and supplies called *collcas*, meeting halls, and accommodation for permanent service personnel. *Chaskiwasis* were inns for the foot postmen or *chaskis*. Other smaller posts were available to wayfarers and postmen. The most reliable estimations put the total number of road inns at somewhat over two thousand. Human energy was administered by Andean society in harmony and balance with a harsh environment. It was a way of measuring and using space that Western knowledge and technology failed to understand and preserve. Studies on the ancient Andean people's vision of the world and technology could make a valuable contribution to human resource management and adaptation to the natural environment.



## PUNO

### The magic of Lake Titicaca

Puno is fundamentally a high plateau (3.500-4.800 masl). Its landscape surprises because of the vast Lake Titicaca (8.300 square kilometers), the highest navigable lake in the world (3.812 masl), and the snow-capped peaks flanking its eastern side. The foundation myths and several legends mention the lake and its islands as the sacred origin of the Inca forefathers and gods. Tauile, Amantani, Suasi and now home to Quechua and Aymara populations of farmers and weavers.

#### The Llallahua cochas

*Located in the high altitude Highlands or Puna, over 3.850 masl, these cochas (lagoons) are a system still used today by the current indigenous population for raising their cattle and intensive farming.*

In the Titicaca high plateau, framing systems evolve under very adverse weather conditions that constantly jeopardize production. There, unstable weather translates into prolonged draughts, flooding, hail and frost that old populations of the area fought through clever agricultural technologies.

The cocha system, for example, is made up of small rainfed artificial lagoons linked by canals to manage water within and among cochas. Soil provides natural fertility.

Always humid, the ground breeds abundant biomass, that the system turns into fine, nutrient-rich soil.

Cochas also contributes to fight frost, one of the greatest challenges of high-altitude framing. Water mirrors acting as heat pumps, the cochas store heat during the day and transfer it when the sun sets, thus preventing frost. Sloping sides help circulate air, specially when a draft rises from the water mirror, also contributing to mitigate frost.

#### The Titicaca waru-warus

*In the lower, less steep reaches of the High Plateau, between 3.800 and 3.850 masl, an-*

*cient populations rose to another challenge posed by Lake Titicaca and its tributaries: floods.*

To counteract floods, gigantic furrows- four to 10 m wide by 100 m long and one m high- improved drainage, soil fertility and created water mirrors to defend plants from hail and frost. Dating back to be found scattered over 142.000 Ha. Recent research has shown potato yields 40% higher there than on mountain slopes or plains.

#### The Pukara ceremonial center

*This 4 square kilometers archeological site, in activity around 150 AD, is located at 3.825 masl and 106 km from Puno. It stands out for its monumental architecture boasting a group of pyramidal mounds built over echeloned platforms.*

The most important among them is Kalasaya, where stucco walls were painted yellow. On the eastern and upper sector of the pyramid, sits what is left of a small temple called Red and White, of semicircular shape open through a stairway to a square, sunken plaza. Human rests and fragments of gold, silver and copper artifacts have been found in the funerary chambers on each side of the square open to the outsides through double threshold gates. A series of small chambers of obvious ritual function can be seen surrounding the higher side of the plaza. The faces of the platforms were decorated with stone sculptures, presumably those of The Beheader, sculpted, fish images, and a stone-slab decorated with representations of lightnings. Excavations have revealed a group of profusely decorated ceremonial vases and small stone sculptures placed in niches.

#### The Sillustani chulpas

*Dating back to Inca times, Sillustani is 4 km from the Hatunqolla site, capital of the Qolla kingdom. It is famous for its chulpas (tombs), built to host the bodies of the Umayo peninsula aristocrats.*

Variouly sized, the chulpas can be 12 meters high and either rectangular, square or circular. Many are built rustically, others are fine Inca stonework, and others still are built in adobe brick.

Superb construction techniques were used in their internal false vault and lateral rock interlocking. Outside they are made with polished and cushioned ashlar, showing cornices and relief animal decorations.

Typical Inca materials combine with Qolla elements. Some evidence shows that many chulpas were painted in white. Similar chulpas can be found in places like Viscachani, Paro-Paro and Katati in the same region.

### **LOCATION AND WEATHER**

The Pacific Ocean borders the Peruvian coast, which is located in the central region of South America. Peru's population is 24 million inhabitants while its surface area covers 1.285.215 square kilometers (comparable to all of Spain, France and Italy combined). Peru ranks as one of the 20 largest countries on the planet. Owing to its location, its coasts have always been a vital for seafaring vessels and for trade in the subcontinental region. Additionally, Peru claims sovereignty over 200 nautical miles and has territorial rights over 60 million hectares in the Antarctic.

### **Coast**

Peru's extensive and arid desert coast is the result of the cold Humboldt ocean current and the presence of the Andes to the East. There is almost never any rainfall in the central and southern regions of the Peruvian coast, which has two distinct seasons: winter between April and October and summer between November and March. During the winter a dense layer of cloud covers the sky and there are frequent light showers and drizzles. Although it seems much colder because of the high humidity, the temperature rarely falls below 12 °C . During the summer on the other rise to 30°C. The northern region of the coast does

not endure the effect gives almost 300 days of sunshine and warm temperatures all year (up to 35°C in the summer).

Rainy season in this region is from November to March which are considerably increased due to The El Niño weather phenomenon.

### **THE ANDES**

The Andes has two very well-defined seasons: the dry season, between April and October, characterized by sunny days, very cold nights (often freezing) and the absence of rain (ideal for traveling); and the wet season (improperly called "winter"), between November and March when rainfall is heavy (generally over 1.000 mm). A typical characteristic of this region is the marked variation in temperatures range from highs of 24°C at mid-day and lows of 3°C at day-break. The climate in the highlands is dry, pleasant and ideal for growing a great variety of crops.

### **Jungle**

The Jungle can be divided into the high-jungle or mountain fringe (over 700 masl) and lower jungle (below 700 masl). The climate in the high jungle is subtropical and mild, with plenty of rain, (around 3.000 mm per year) between April and October. Nights are always cool. The lower jungle, on the other hand, has two distinct seasons defines in direct relation directly to their distance from the Equator. The dry season, between April and October (ideal for tourism), features sunny days and high temperatures, which normally top 35°C.

River water levels during these months drop radically and roads are easily traveled. The rainy season, between November and March is characterized by frequent downpours (at least once a day) and by tough road conditions. Humidity in the jungle is very high throughout the year. The southern region also sees the occurrence of friajes or surazos: cold fronts that arrive from the extreme southern tip of the continent from May through August. During these cold snaps, temperatures tend to fall to 8-12°C.

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