

Tiahuanaco

Amazing Ruined Site





We have visited Tiahuanaco various times already in the 80'ties, because we have been immediately fascinated of this very special archeological site. And we wanted to learn as much as possible about these mythical ruins scattered in the landscape. Their position on the altiplano near Lake Titicaca at an altitude of 13,000 feet at the foot of the snow-covered cordillera is difficult to understand. It is not really a place you want to live. But probably the people of Tiahuanaco wanted to be as close as possible to their gods, because they believed their gods lived on mountain tops and these were holy places.

Tiahuanaco must have been a very special pilgrimage site and important religious center in the Andes. And Lake Titicaca certainly was also playing a significant role in their beliefs. This would explain the many temples erected on huge man built stepped platforms with impressive monolith gates and numerous heavy stone statues put up in their court yards. These gates were dedicated to their most important divinities like the sun and moon gods and goddesses.

Enormous Destruction

It is obvious that these rather destroyed ruins, or what is left of this important ritual center, has been used unfortunately as a self-service quarry for the Spanish church builders and later as well for the construction of a railroad running right through the ruins. Even today you will find many building blocks with the typical Tiahuanaco motives on facades of private buildings and churches. Despite the rather reduced ruined remains Tiahuanaco has been

nominated an UNESCO world heritage site in 2000. Because of its importance in history and architectural uniqueness it certainly is worthy of this title.

Is Tiahuanaco a Pre-Inca Culture?

We want to show you how impressive and unique these monumental temple structures of a still rather unknown culture were. Archeologists still wonder how the ancient builders were able to erect these immense temple complexes with monolith weighing over twenty tons. New studies surprised the world proposing the use of a new building technique called geopolymer concrete. This puzzle we are trying to untangle for you. We know that this construction technique was not used history anywhere else worldwide.

We do not know how the inhabitants called their important cultural and economic center. Some experts believe it was called Taypikala, but this is a pure assumption, as no script existed and no archeological proof was found in the ruins left. Different to the Maya using hieroglyphs including written chronicles and detailed calendar calculations, the people of Tiahuanaco did not use these types of communication.

When the Incas arrived 200 years after Tiahuanaco was deserted, they found Aymara speaking poor farmers living in between the ruins. And they had no knowledge who erected this huge and formerly important cultural center. But they called them Viracochas. Nevertheless, the Incas were impressed by the few remains of a previously impressive monolithic archi-

ecture and their precise building blocks. So, they imitated the accurately fitting building technique without mortar for their walls in Cusco.

Linguists assume that the Tiahuanaco people spoke Puquina. Nevertheless, looking at the unknown roots of the Inca, an intriguing question arises. Was Tiahuanaco the forerunner of the fast-spreading Inca culture, which rapidly conquered the entire Pacific coast of the continent? And what role did the huge ruins of Iskanwaya played, which are situated close by? Never heard of Iskanwaya? You will be surprised, what we will tell you about it later on.

Minimal Excavations

So far only ten percent of the full extent of Tiahuanaco has been excavated. Bolivia is the poorest and most underdeveloped country on the continent and it lacks interest and resources to make use of its important ancient cultural history. In addition, there is an antipathy and mistrust in foreign originated projects. And wide spread corruption does not help further to start the needed serious and yearlong excavation campaigns with international expertise.

This is very different in Peru, which recognized long ago the important economic factor tourism with significant foreign income. Imagine the most important Inca temples do not lie in Peru but in Bolivia. The ruins of Pilkokaina and Chinkana and many others are situated on the most holy Inca site called Sun Island in Lake Titicaca. And in direct line in the eastern cordillera not far away lies the important cultural site of Iskanwaya. This



is Bolivia's equivalent to Machu Picchu. Now imagine, it is 500 years older and five times larger. Until today this important archeological site has not been developed and is therefore unknown to most. This was also true for Machu Picchu until a railway line was built into the Urubamba valley. We have visited breathtaking Iskanwaya under difficult circumstances in 1983 and camped in the ruins. Imagine, at that time many painted ancient pottery sherds were lying scattered around us.

Interesting Position

Tiahuanaco is situated on the altiplano at an altitude of 13,000 feet. It is connected to the capital La Paz via an overland road of about fifty miles and Lake Titicaca is about ten miles in direct line further north. Researcher Prof. Posnansky took numerous pictures of the dilapidated ruins about eighty years ago and assumed wrongly, that the lake level was





higher at the time and Tiahuanaco situated at Titicaca's border. His two books published in the 1950'ties belong to the standard literature on the subject.

Despite that all buildings were destroyed and ninety percent of the building material was taken away, we have another source of information to validate this unique ancient culture. In the entire Tiahuanaco cultural area beautiful painted ceramic pieces were found and many others came to light in excavations. They are the best proof of this highly developed and outstanding Andes culture. All pottery vessels of various forms were decorated with multi-chrome painted animals and divine symbols.

Most Important Buildings

The different ritual and temple buildings were all aligned with the day and night equinox dates. In spring this happens between 19th and 21st March and in autumn between 22nd and 24th September, when day and night duration are equal. To these buildings belong the reconstructed square subterranean temple, the renovated raised double walled platform Kalasasaya, the man-built hill Akapana, the destroyed Pumapunku temple, as well as the ruined Pu-

tuni palace and other destroyed structures of unknown use. Not to forget the various living quarters for common and elite inhabitants. During its heydays Tiahuanaco hosted 400,000 inhabitants.

Tiahuanaco a State?

During its cultural and economic climax Tiahuanaco cultural territory extended about 400,000 square miles. On the northern border of Lake Titicaca this included the towns of Taraco, on the eastern side Escoma, Tambo Kusi, Pukuro, Uyu and on the western border Kea Kollu Chico, Koati, Wakka Uyu, Mokachi, Ojje and in the south Chiripa and Kalakala plus Wankani south of Tiahuanaco. Experts also speak of Tiahuanaco being a kind of corporate state organization. We do not believe so, despite various social classes existed and a mass production of metal, pottery and agricultural produce was quite organized. We believe that the practiced task distribution later perfected by the Incas was already in existence in Tiahuanaco with a defined social structure of priests and/or ruling elite and workers.

Pukara and Wankarani Cultures

The area shows first traces of settlement about



3,500 years old. The first signs of Tiahuanaco culture could be dated about 3,000 years ago. Its life time lasted for as long as 2,000 years. That is over fifty generations and rather long for an Andes culture. So, it is contemporary to the Pukara culture on the north end of the Titicaca, which started a few hundred years earlier. Some experts believe that Pukara is the predecessor of Tiahuanaco, because it established the first complex social structure in the Andes. Looking at the iconography the traces are too poor.

The influence of Wanakarani and Chiripa cultures are mentioned by others too. Wanakarani started at the same time as Pukara, but was situated further south of Tiahuanaco around lake Poopo and Oruro. This culture erected large square tumuli made from mud brick. They also produced fine silicon arrow heads and had the knowledge to smelt copper. Wankarani also came to fame through their voluntary skull deformations.

The Huari and Wari cultures followed on Tiahuanaco. They copied Tiahuanaco ceramic iconography and developed it further. Some experts believe, that both cultures were the

same and only a regional variance in pottery production and motives made archeologists to distinguish them. Finally, one can say that the great Tiahuanaco culture influenced the whole Andes region.

Urban Phase

After the first Tiahuanaco phase which lasted 450 years followed the second for 250 years. The third period started about 1,500 years ago. With the demise of the Pukara culture in the north Tiahuanaco gained further importance. In the beginning Tiahuanaco lived of agricultural produce planted on raised beds called canellones with sophisticated irrigation systems. Interestingly, the Maya used the same raised bed agriculture in Central America. Was this pure coincidence? Or was it early technology transfer over thousands of miles.

In Tiahuanaco mainly potatoes in great varieties, sweet corn and quinoa were planted. For example, sweet corn was adapted to the high altitude. Llamas and alpacas were bred for wool and meat. Tiahuanaco artisans were masters in metal smelting and processing. Long distance trade at the time was flourishing and an important source of income.



Tiahuanaco ceramics were sought after and traded afar. In this phase the subterranean temple was erected possibly as the first great ritual building of many to follow. A defined social structure existed already with different living quarters for elite and workers. The social difference can also be seen in the pottery production. Next to thin and richly decorated drinking cups called keru, also thicker and simply painted pottery pieces were produced. Tiahuanaco now covered more than a square mile and became a real regional ritual center and capital.

Ceramic Production

The amount of found pottery sherds is immense. Fortunately, many undamaged ceramic pots were excavated. Typical for Tiahuanaco pottery is the reddish shiny grounding, which then has been decorated with multicolor motives. The colors used include black, white, brown yellowish, various red tones and greyish. The main motives are animals in natural or abstract form such as puma, condor, fish, snakes as well as anthropomorph figures. Regular used symbols are steps and wave motives, which symbolize the earth and water gods. Most puma and condor depictions wear a neck band with the sun symbol, which signifies a divine status. Next to the typical ceramic forms new pottery vessel types were created. These can be classified into various periods as well.

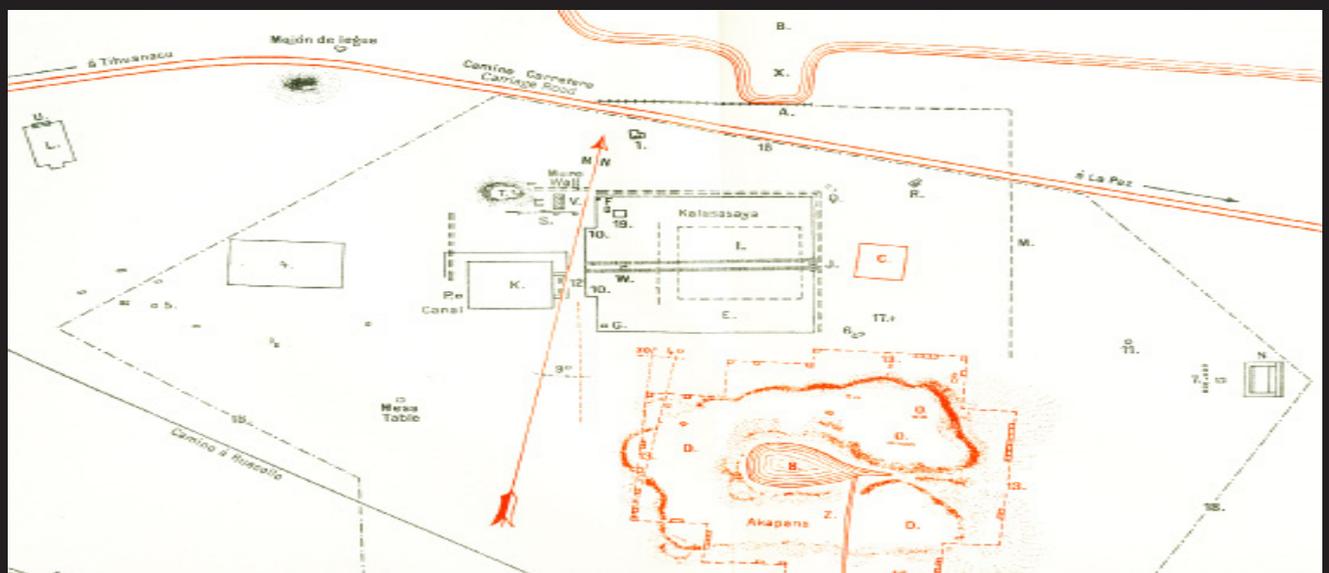
Cultural Climax and Building Phase

This phase began 1,500 years ago and lasted for 300 years. It was the period of great building projects. The number of inhabitants grew to 20,000. Trade expanded because the pop-



ulation grew further and the rising number of visitors or pilgrims at religious festivities had to be fed. Next to food stuffs like sweet corn, coca, chili, fruits and salt also minerals including silver and gold for example from Potosi, Chile and Argentina were traded in. Gold and silver were needed for the many ritual items manufactured such as human and llama figurines and cups.

Tiahuanaco has now become an important far reaching economic force in the Andes. It forms various political alliances and its cultural influence goes as far as the Chilean pacific coast and far into Argentina as well as north into Peru. But different to the later Incas Tiahuanaco is not a military focused culture, which subdues other kingdoms. In this phase many new building projects and rebuildings were undertaken. The subterranean temple, Kalasasaya and Putuni were renovated. Akapana and Pumapunku were extended plus many stores, canals and cisterns erected. The city now grew to about five square miles. Half of this were living quarters. This represents an enormous space for ritual buildings.

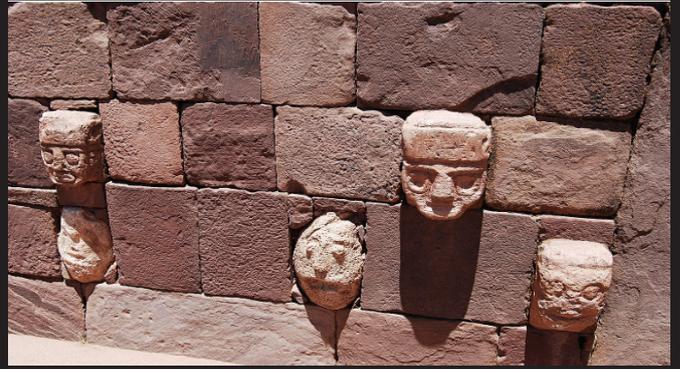


Last Phase and Demise

It lasted 350 years and at the end about 1,000 years ago a serious draught had a drastic influence on the importance and success of this significant pilgrimage center. Social unrest with destructions happened and the population moved away and reduced drastically. Finally, Tiahuanaco was given up a few years later.

Research and Questionable Reconstruction

The first report about the existence of Tiahuanaco surprised the world. Unfortunately, they did not have the same impact like in Egypt with many excavations and astonishing discoveries. The first who reported about it were the Spanish conquistadores in 1549. The German scientists Stuebel and Uhle published the first book about it in 1892. First excavations by Bennett happened much later in 1934. And Posnansky took numerous pictures of the devastated ruins and published two volumes, which became standard works about Tiahuanaco and its amazing multi-chrome pottery. The intense robberies of building material led to the fact, that today none of the monolithic gates and statues are situated in their original position. Visitors today therefore do not get the correct impression of the enormous ritual site. Foreign experts agree, that the reconstructions executed by Ponce Sanguines in the 1960'ties were not done correctly on true archeological findings. Further UNESCO considered to withdraw the world cultural heritage status, if local authorities would go one with the none conform reconstructions. This stopped all works until today.



Subterranean Temple

This was probably the first ritual building to be erected in Tiahuanaco. It gives the impression to be the only square structure, but it is not the case. Why it is not square, we do not know. Possibly because it was the first building and an overall development plan did not yet exist? With an extension of 92 to 85 feet and a depth of seven feet it surprises visitors nevertheless and is an impressive structure. Pachamama or mother earth still plays an important role today with regards to fertility for indigenous indios. Did this led its builders to choose a subterranean temple? Its walls have been decorated with numerous outstanding stone heads. There is no proof of how many they were. And if they were all placed in a double row only in the lower half of the wall. Archeologists assume there were more than 200 heads inserted in the four walls. Some were even placed in the poor replica temple built in a square in La Paz. If we consider this subterranean temple in the overall set-up of the entire architectural complex with raised agricultural beds and sophisticated irrigation systems including an important water god, it also could have served as a huge ritual water cistern. Keep in mind also the theory of Pumapunku with its immense central water basin possibly having severed for ritual water features.

Kalასasaya Ritual Site

As this raised site lies directly next to the subterranean temple, we could assume that it was the second sacred building being erected 2,000 years ago. Possibly the excavated earth was used for the two platforms. The outer court yard is surrounded



by a perimeter wall of a heights of ten feet and supported in regular distance by even higher monolith columns. The platforms vary in size, but have a common entrance gate. The larger platform measures 443 by 426 feet and is like the subterranean temple not square. These ritual courts are entered by a wide staircase and deep gate. This creates a special view to give the impression of infinity. But what happened inside these open-air temple yards? Were they just huge ritual places for the crowds to pray in front of a central statue? Today you will see here the so-called Ponce statue. But there is no proof that she actually was standing here during Tiahuanaco times. The subterranean temple and Kalasasaya are the only buildings of many, which have been reconstructed.

Great Akapana Hill

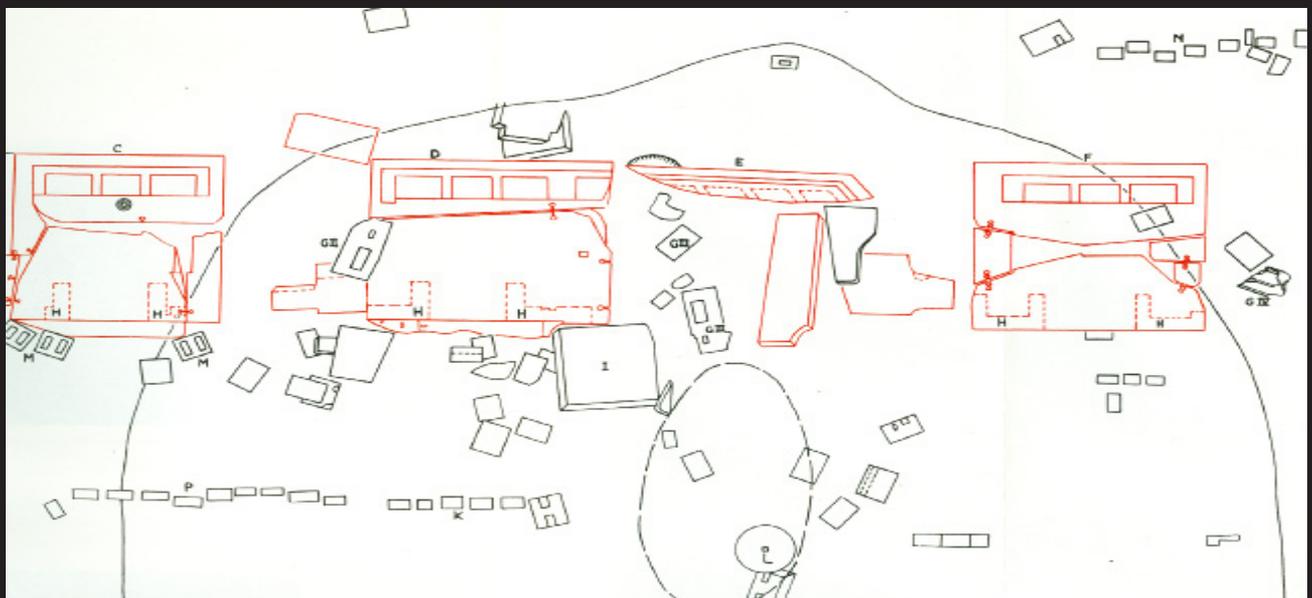
With a height of nearly seventy feet, it is the highest man-made hill in Tiahuanaco. Therefore, it is regarded as the most important ritual structure. Often this totally ruined hill with a huge hole in its middle is called a pyramid, but this is not the case. Akapana was a construction of seven platforms built with perimeter walls on top of each other. Archeologists assume, that the top platform was crowned by a significant sacred temple with richly decorated divine statues inside. Archeologists further believe, that on the top platform another typical Tiahuanaco type subterranean temple was erected. Today only a huge open space is left. Possibly it was dug by robbers searching for gold items. From the top you can well see the highest mountain Illimani with a height of over 21,000 feet



and in the north lake Titicaca. Both have been holy places for the Tiahuanaco people. Calling this staked platform structure a pyramid is not correct, as it was rather low. But the idea was to be closer to the gods. The same idea made the Mayas and other cultures in Central America to build rather steep and high pyramids with a small temple on top.

Pumapunku Complex

In Aymara this means puma gate. But this was not the real name of the complex during Tiahuanaco times. It is the most extraordinary ritual building we have seen at any ar-



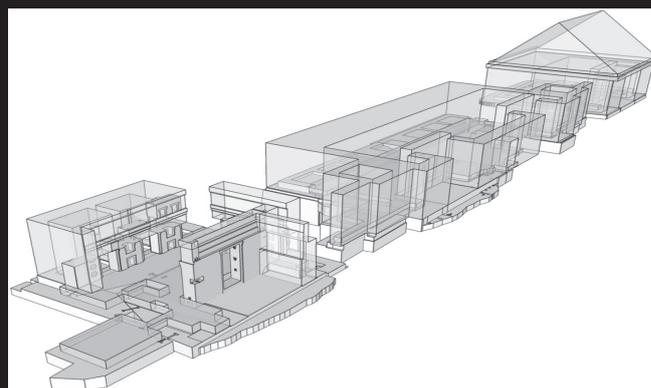
cheological site. The wide complex measures 164 feet and is only 50 feet deep. It consists of four halls with three chambers in between. In total there are fourteen rooms. The structure has an entrance gate on each end. Unfortunately, the complex is totally destroyed and only twenty percent of the building blocks lie scattered around. Via a passage with many bends one could pass from one to the next of the four connected buildings. Each building was erected on a monolithic separate foundation plate, each weighing about 165 tons. These, as we will explain further on, were created in the unique poured geopolymer concrete technique, possibly invented in Tiahuanaco. The puzzling complex has been erected on a man build hill with three platforms. To the main building two court yards one in the east and west were added with ramps leading to the two entrance gates on each side. Typical for the Tiahuanaco culture the gates had a significant ritual importance. Possibly, the central building had even four entrance gates. But different to the monolithic sun and moon gates, here they were build out of various building blocks.

Pumapunku Function?

In the center again a subterranean temple was erected measuring 380 feet square. This structure might not have been used as a temple, but as a huge cistern. This possibly explains the integrated canals in the main building. For normal rain water runoff volumes they were designed far too large. Paleohydrologists assume, that they served a ritual purpose. Did the priests of Tiahuanaco used them as water features for religious ceremonies? Have they possibly served for a fertility or cleaning ritual? In a computer simulations experts found, that the running water must have produced an impressive sound. This must have been a striking show, when priest possibly prayed to gods for water and then it came rumbling down.

First Prefabricated Buildings?

Pumpapunka must have been a holy building reserved for priests and the elite. Experts established, that the main building was erected with minimum 150 andesite building blocks. Builders used poured geopolymer concrete blocks like Lego stones stacked on top of each other and hold together by metal cramps. They did not need shifted stone rows for stability. The poured blocks were really identical, so that one could exchanged them without problem. The blocks were standardized, symmetrical



and produced with geometric motive niches. We could really say the builders of Tiahuanaco invented the prefab building technique. They even thought to add lifting handles to better stack them vertically. Archeologists found out, that this building was erected in three phases lasting 100 years and starting 1,500 years ago.

Intipunku Sun Gate

Unfortunately, only two of the important gates of the Tiahuanaco culture survived more or less undamaged. They are the sun and moon gates. The sun gate is the most impressive with its rich figurative decorations on the upper front. These represent the most important iconographic samples left over of the famous Tiahuanaco culture. This monolith weighs ten tons and is about ten feet high and thirteen





feet wide. It was placed on a foundation stone with a door height of six feet. It was high enough for taller people. We will speak later on about the theory of the taller elite in Tiahuanaco compared to the smaller indigenous altiplano indios. Today the gate is broken into two, but has been re-erected in the Kalasasaya yard. Its initial place is unknown. The main figure in the center of the frieze depicts the sun god with scepter and spear thrower. The frieze consists of three rows with 48 identical figures with wings and holding spear throwers. The top and bottom row show figures with human heads. The central row shows the same figures, but with condor heads. A fourth row below might have been added shortly after, but still during Tiahuanaco times. Possibly this happened at a later phase when cultural rituals changed. This assumption was first mentioned by Posnansky.

Sun Calendar Theory?

Posnansky proposed, that these figures might present a sun calendar. He tried to interpret the first three rows left and right of the sun god figure as six weeks with five days. The fourth row shows the months, whereby the sun god figure itself represents in his view the month of September. This might be explained with the equinox dates in September. But his theory does not fit with the full iconography of the larger size



gate frieze. Three figures in each row on the left and right are missed out in his considerations. And there are actually more than twelve figures in the so-called month row. We follow with the assumption of other archaeologists, that the frieze actually continued on the sidewalls left and right of the sun gate. Still not explainable is the fact, that the assumed row of month figures has not been engraved consistent to the vertical order of the above three rows of figures. This does not fit the symmetry loving Tiahuanaco culture. Is Posnansky possibly right and this row has been added later? Nevertheless, the frieze still does not make a calendar. We still give not up on the calendar theory, as we were lucky to see an interesting round plate with motives similar to the sun gate. It shows further circles with symbols, which support the calendar idea. And here we saw the correct number of months. We assume, that the Tiahuanaco priests had best cosmic knowledge. So, they could instruct the builders to erect all their buildings along the precise day and night equinox lines.

Moon Gate

The so-called moon gate is smaller and in heights and widths and measures only a bit more than seven feet. It is not so much decorated and differs very much from the impressive sun gate. It is a simple gate looking



more like a door frame with a small frieze at the top. It is not clear, if the frieze was decorating the outer or inner side of the gate. But the frieze is identical to the fourth row of figures of the sun gate. Archeologists were surprised to find plenty of small holes in the free spaces in between the high relief figures. They assume that small nails were holding golden or silver plates in those spaces in between to highlight the impression of the frieze figures. This decoration feature was not used at the sun gate. Due to the similarity of the frieze archeologists assume, that the moon gate was initially also adorned with a central god figure similar to the sun gate. This missing figure might be situated today in the museum plaza in La Paz. We can be certain, that the name moon gate has been created more recently. This gate was most probably part of the Pumapunku building.

Huge and Heavy Monoliths

Of the numerous monolith which were part of the ritual center of Tiahuanaco only a few survived the enormous pilferage of building material over a long time starting with the arrival of Spanish conquistadores. Archeologists assume, that more than 100 beautifully carved statues were installed in the ritual complex of



Tiahuanaco. The Spaniards also destroyed many divine statues to eliminate parson idols and thereby forced the local population to convert to Christianity. The largest statues were weighing up to 140 tons. Experts classified them into different types. The so-called presentation statues were the most important ceremonial figures. They represented various divinities. Two other types were recently named chachapuma and yayamama. The first were used as gate keepers and some were initially even painted. Possibly the same pottery colors such as black, white and red were used. The statues can also be classified into the different Tiahuanaco cultural periods.

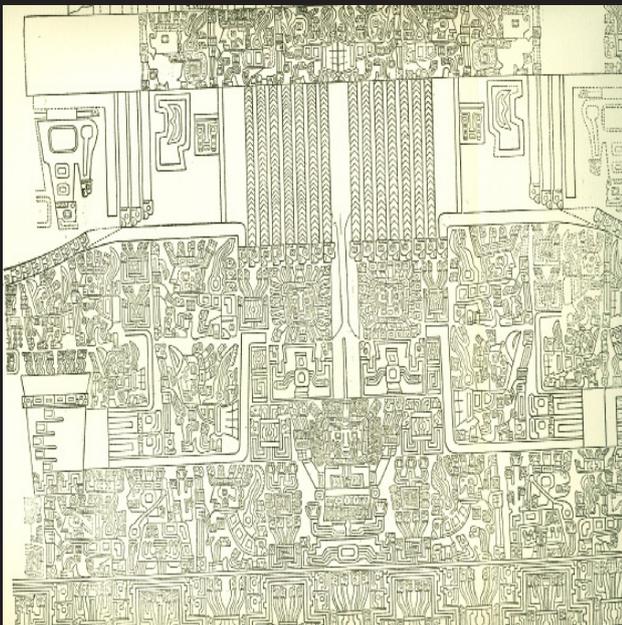
Impressive Statues

Let's have a look at the statues which still can be seen today at Tiahuanaco. The largest is called after Bennett and has a height of over twenty four feet and weighs twenty tons. It was found in the subterranean temple and is now exposed in the local Tiahuanaco museum. The second is also called after an archeologist Ponce monolith. It was found in 1964 and is in its form and decorations most typical for the Tiahuanaco culture. Being only eleven feet tall it shows various special attributes. The statue holds in one hand the typical





keru and a small tablet. Both were important items in the ritual life of Tiahuanaco. Keru cups were used to drink chicha an alcoholic sweet corn brew, which is still consumed today during festivities by altiplano indios. The tablet served for either snuff tabaco or coca leaves. The latter was chewed with lime powder to develop its effect. Certain ceramic pieces show a human face with the typical bump in the cheek. Coca leaves boiled as tea have a calming effect and help well against the negative effects of altitude sickness or soroche. Chewed coca leaves reduce pain, hunger and feeling of cold. Other statues were called El Barbade and El Descabezado, because the latter is missing its head. The



Chuchukala stele was also placed in the local village museum.

Tiahuanaco Pantheon

Studying the engravings of statues and pottery motives archeologists have found proof of various divinities being adorned in Tiahuanaco. They assume that the sun god was the most important. Further they established that most divinities were goddesses. They further believe that Aymara indios adopted most Tiahuanaco gods. Thereafter pachamama is the earth goddess and paximama the moon goddess. Kochamama was the goddess of water and lake Titicaca. Huaya huirakjocha and achachilas were the gods of wind and mountains. Some scientists also believe that the Tiahuanaco priests were a theocratic class and had a divine status as well.

Poor Temple Copy at La Paz

In a square of the Bolivian capital La Paz a copy of the subterranean temple was erected. It does not come close to the original and is archeologically misleading. In addition, various statues and building blocks were put up here. This wild mixture is not worthy of the important Tiahuanaco culture. We also miss the creation of a sizable and worthy museum matching the importance of this unique culture and UNESCO world heritage status. Of the huge collection of Tiahuanaco pottery only a few pieces are exposed in a rather poor manner. And we know, that many pieces disappeared from the museum's magazines over the years.



Chachapuma Gate Keeper Figures

Another important monolith is the Fraile statue called so as it resembles a priest. Two further statues were carved out of basalt and found near the Akapana hill. They belong to the chachapuma type. These plus the so-called picture column can be seen at the village museum. Chachapuma figures were created with scary looking puma heads in a seated position. They hold an ax in one and a human cut off head in the other hand. Therefore, it is assumed that this figure is asking for human sacrifices. These rituals were not only common in the Inca culture, but possibly as well in Tiahuanaco.

Geopolymer Concrete Puzzle

In 2019 a new study has been published, which surprised experts worldwide. The precise sandstone and andesite blocks have been investigated with latest available technologies and the outcome was astonishing. Already the first scientists over a hundred years ago posed themselves the question. How were the builders able to produce such precise angles and flat surfaces 2,000 years ago without leaving any chisel trances? The solution is called geopolymer concrete produced from few locally available base materials. When at the same time in the Middle East the Nabataeans produced the first water tight cement for their cisterns, why not



inventing another building innovation in Tiahuanaco? They needed kaolinized sand stone and natron. Milled andesite and wet sand were mixed and formed to blocks. As raw materials they also used volcano tuff stone to produce organic-mineralized geopolymer and as binding agent carboxylic acid gained from local biomass like guano, which was available at the coast. Possibly acids gained from chicha production were used either. Experts established that the chicha production capabilities at the time were greater than needed for human consumption. It really sounds puzzling, but there is scientific proof now.

First Mass Production?

With these raw materials very long living concrete building blocks could be manufactured. These building blocks poured into precise molds also do not show any production faults such as unrepairable slipped chisel marks. This also explains the perfect repetitive relief friezes. This fact has been noticed by archeologists from the beginning. With this technique builders could produce blocks with integrated relief scenes, which perfectly fitted together. Unfortunately, no molds and other tools were discovered yet. In the beginning Tiahuanaco builders used hewn stones from quarries nearby. They also had the capacity to transport huge blocks over greater distances like it was done in Stonehenge and much earlier in Goebekli Tepe in Turkey. They also knew how to erect large monolith with wooden poles and ropes. The deep holes on both sides of the sun gate prove the use of this technique. Archeologists also discovered two quarries about six and fifty miles away.

Innovative Use of Cramps

Metal cramps are a further building innovation to hold heavy building blocks perfectly together. They were used also in other cul-



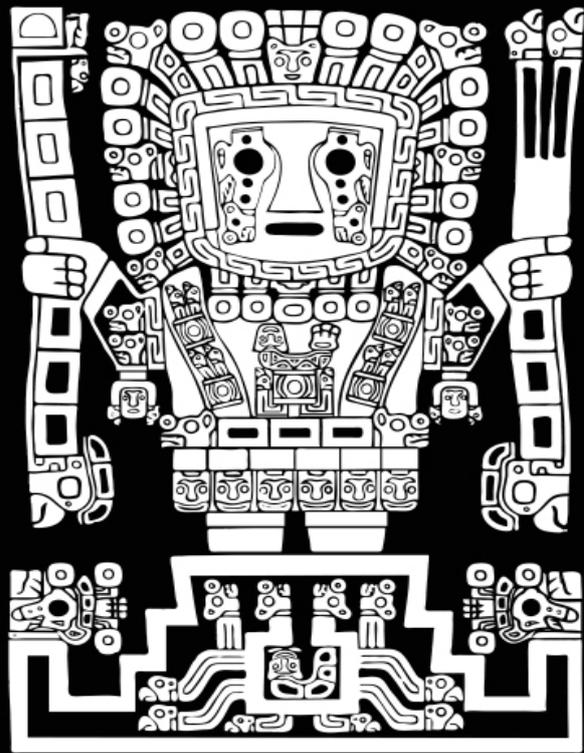
tures around the world like in Egypt and Greece. But only in Tiahuanaco seven different types were used to fit various purposes. We can describe their forms best with modern letters like L, T, double T, double +, U, Y and Z. Unique was also the use of hidden cramps. All forms were produced from a clever alloy mix including copper, arsenic, nickel and bronze. These cramps were able to hold a weight of over twenty tons. Interestingly these alloys were smelted on site and poured into the cramp openings. When the metal became hard it contracted slightly and pulled the building blocks tightly together.

Further Interesting Theories

We have already mentioned tall individuals living at Tiahuanaco. Looking further back we know that the American continents were not populated for the first time about 15,000 years ago as previously assumed. The land bridge between Siberia and Alaska called Beringia made a human passage possible about 15,000 as well as 45,000 years ago, when ice melted. The earlier date would explain the mummy bundles of Atacama dated 28,000 years and the paleolithic rock paintings at Serra Capivara in Brazil and Chiribiquete in Colombia estimated to have a similar age. It also has been ascertained, that Columbus was not the first man to discover the Americas. The Vikings landed in North America over a thousand years earlier. Who knows who else made the sea passage from the old into the new world before that?

Tiahuanaco Priest Elite

In Tiahuanaco two types of funerals practices were discovered. The typical seated mummies are common for the entire South American continent. But skeletons lying stretched out on their back? These deceased were about six feet tall, the indigenous indio population was much smaller. Adding to this, we



have noticed various untypical formed pottery heads, which look more like the figurines in Mesopotamia. Did really a tall high priest elite ruled Tiahuanaco, which was not related to the local population? We hope the latest DNA sequencing technology from the Max Planck institute in Leipzig could clear this up soon. We are certain Tiahuanaco still has a lot of surprises for us.

Summary

Tiahuanaco is one of the most important ritual and cultural centers in the Andes region. Unfortunately, this 2,000 years old archaeological site was plundered in a great



way for building material. Despite the few remains left archeologists were able to restructure two ritual buildings. The subterranean temple impresses visitors with its lowered walls decorated with numerous carved heads sticking out of the wall surface. Who did they represent? High priests or divinities? The extraordinary statues were richly decorated with many figures and symbols. Certainly, they represented gods. But what role did they play in the ritual life and festivities of Tiahuanaco? Another important function had the decorated main gates in the beliefs of the Tiahuanaco culture. Kalasasaya is the second reconstructed temple building with two huge court yards. Their true purpose is not yet known, but its size suggests they were meeting places for praying and sacrificing to gods. So far not rebuilt were the important Pumapunku complex, of which only few scattered building blocks are left over. Recent research results surprised experts worldwide. These prove that the precise greyish building blocks were produced at the time with a newly invented geopolymer concrete pouring technique. This would make Pumapunku the first concrete building the world over. But how did the Tiahuanaco builders discover this genius idea? Was this their answer to secure buildings in an earthquake prone region? Similar surprising is the use of cramps holding vertically stacked blocks together. When you plan a trip to South America to see Machu Picchu do not miss out on Tiahuanaco and the famous Lake Titicaca with a short boat trip to the most holy Inca site the sun island with interesting ruins to be visited. It is really worth it.

Picture Credits

We thank all institutes, museums and particularly Posnansky as well as Diez de Medina for making available some of their pictures and graphs.

