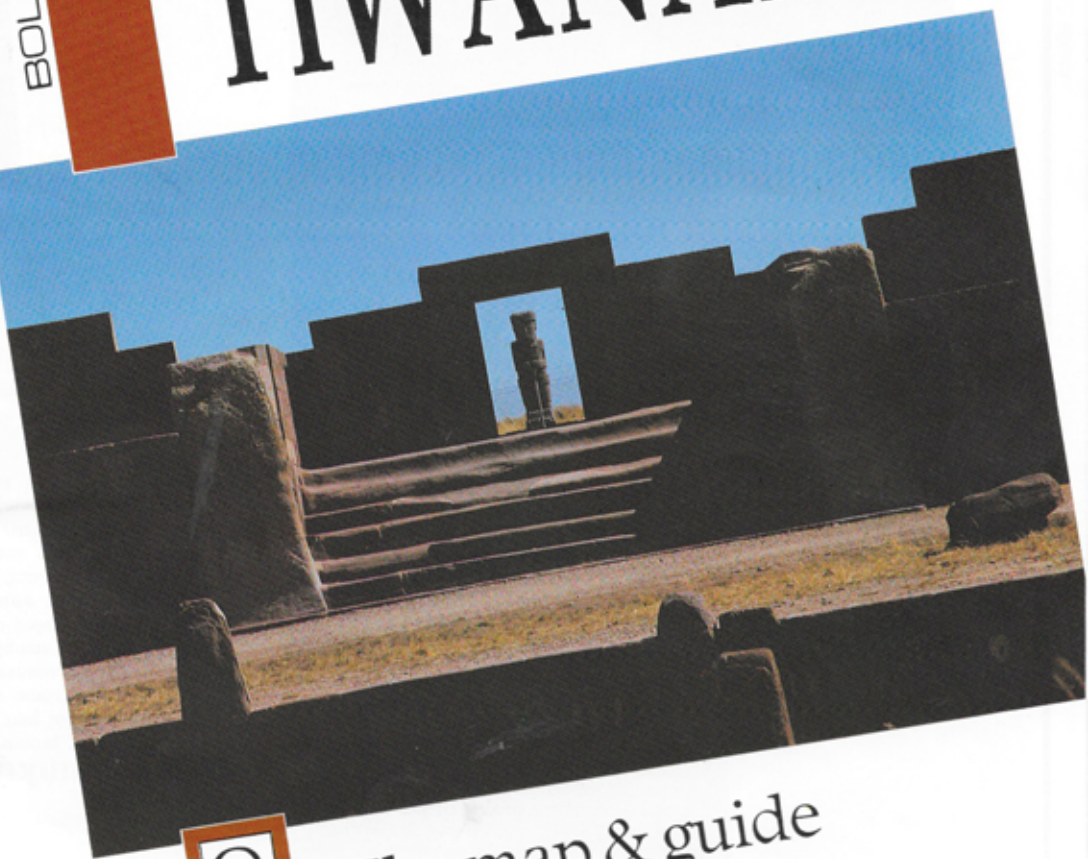


BOLIVIA

TIWANAKU



The map & guide

Set 3,846 metres above sea level in the middle of the rural landscape of the *altiplano* (highland plain), stand the proud ruins of an age-old metropolis, Tiwanaku.

Visited every year by thousands of tourists, Tiwanaku was for a long time one of the greatest mysteries of the Andean region, and perhaps of the entire world. But those who still consider Tiwanaku an enigma do scant justice to the researchers who since the last century have been stubbornly trying to uncover its secrets.

Whoever gazes for the first time at Tiwanaku's stone monuments is overcome by their grandeur and perfection. You cannot but stop and think of what these monoliths, which impassively watch the centuries go by, have in common with the people who built them; haughty, proud, serene, but at the same time silent, unmoved, and sad.

If you take the time to observe all the monoliths, you realize that not one of the figures depicted on them is laughing. Indeed, there are no representations of any of the people of Tiwanaku in pottery, wood, textiles or any other material in which a figure is even smiling. So were the Tiwanaku people happy?

It's a question that was posed (by the French scholar Louis Baudin decades ago) about the Incas (who came after the people of Tiwanaku) - but he didn't find a satisfactory answer. The truth is that as the Tiwanaku culture had no writing, these and many other questions about its customs and beliefs have been lost forever. Even if we could travel back in a time machine, we couldn't answer the question because the concept of happiness varies from culture to culture, and even from person to person.

The only certainty is that today's visitor to the ruins can only appreciate a tiny portion of what was once a powerful city and the meeting-place of engineers, architects, astronomers, artisans of different skills who came from far-off corners of the empire,

MAJESTIC TIWANAKU

By: J. Antonio Sagarnaga M.
(Archaeologist attached to - INAR)

traders, soldiers, and many others who made Tiwanaku the "metropolis of the mountains," as expressed by Ainsworth Means six decades ago.

It's difficult to prove that artisans came from all over the surrounding area. But we know that the Incas, who copied many of the customs of their predecessors, brought hundreds of goldsmiths, masons, potters, weavers, and other artisans to Cuzco from distant parts of their empire. So it's probable that the governing elite of Tiwanaku did the same before the Incas.

At the start of the 1970s the Bolivian archaeologist Carlos Ponce made the following outline of Tiwanaku's cultural development.

The Village Stage: Tiwanaku probably started as a modest village set in a smallish valley between two hill ranges. In this early period, probably around 1200 BC, known as the Village Stage, Tiwanaku already had a self-sufficient economy based on naturally irrigated agriculture, where farmers only produced enough for their families. The people ate potatoes (*solanum tuberosum*), quinoa (*chenopodium quinoa*), and another type of tuber called oca (*oxalis tuberosa*). They lived near Lake Titicaca, so they ate fish too.

They built houses made of adobe with rectangular floors, which occasionally had circular rooms attached to them. From the discovery of a small representation of a house, we know the roofs had two pitches. We also know that narrow stone paths

linked the houses, a significant sign of progress for the period.

In the Village Stage the people had already developed a very particular type of pottery. Its main characteristic was generally red painting on a clear yellowish chestnut-background, with incisions and motifs traced in red, dark grey and white on a similar background. They also began to do metalwork, particularly in copper.

As to their system of beliefs, Ponce points out that no buildings of worship have been found, although their existence is not ruled out. Their dead were buried in circular holes and were accompanied by funeral effects.

It is certain that the deformation of the skull was already apparent in this period. It appears that strong social or class differences had not yet developed.

The Urban Stage: In the first century AD, Tiwanaku made a qualitative jump. It passed from being a simple village to becoming a city. A second phase of its history began, the Urban Stage, which is divided into two, the early and late phases.

Experts are still not in agreement as to what caused the transformation of Tiwanaku from village to city. But it's likely that the development of the use of copper allowed the construction of better tools, which made agriculture and stone work much easier.

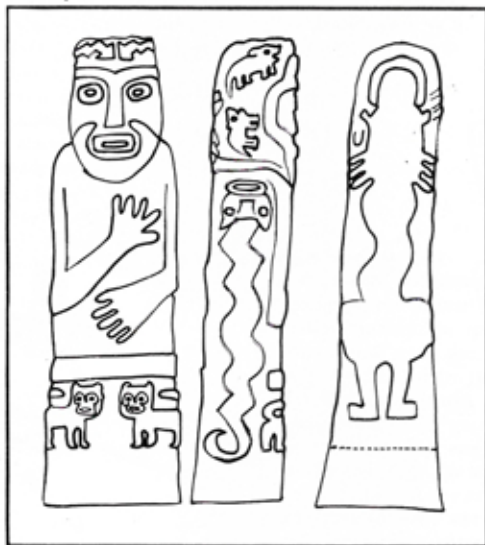
This development could also have allowed the construction of canals to capture water from springs and its transportation to cultivated areas. Better water management probably led to surplus agricultural production. This advancement in turn was probably appropriated by an emerging ruling class, who started to employ workers to perform new tasks.

Along with the emergence of a ruling class came a new state which set in motion engineering projects and works of architecture, paid for by the surplus agricultural production grown by the farmers. The gradual improvement in agriculture and irrigation

system, which the ruling class planned, created more production which in turn paid for more and better public works.

The artisans who previously worked only when not laboring in the fields, could now dedicate all their time to developing skills and new technology. In this way artisans became an intermediate class between rulers and peasants.

Most of the stone buildings you can now see in Tiwanaku were constructed in this urban stage. Masons took the sandstone from nearby quarries. Others carried stones to the city where sculptors gave them their appropriate shape and form. Architects carefully planned buildings which masons skillfully turned into reality. Pottery, sculpture, metalwork and other arts developed significantly.



Bearded monolith or estela 15. It can currently be found in the middle of the subterranean (Dib. Bennett).

The late Urban Stage: In the next stage, known as the Late or Mature Urban Stage (also called the Classical Era), the people of Tiwanaku were even more advanced than their predecessors, especially in their technical achievements.

They began to embellish their buildings,

and surely to construct new ones. They now preferred to use grey andesite (a type of volcanic rock) in their architecture which they brought from the Copacabana peninsula by boat across Lake Titicaca, and later dragged overland.

Urban developments spread to Pajchiri, Lukurmata and Wankani, all close to Tiwanaku and as far as Ojje on the peninsula of Copacabana.

In this stage there was probably an expansion of Tiwanaku culture. This responded to the growth in urban needs, and to the necessity of large-scale agricultural planning and improvement of production methods. The residents discovered the use of new primary materials which improved the quality of stone and metal tools and artifacts in general. These new materials were to be found farther and farther away from Tiwanaku.

The same phenomenon occurred with new agricultural products grown in a different ecological environment to that of the altiplano. The result was that they had to send their people further afield. This in turn led to violent clashes with neighbors, which necessitated better weapons and the formation of armies.

It's worth mentioning here a style of Tiwanaku sculpture known as "chachapumas", or "puma-men." These are representations of men where the central figure (almost always kneeling down) is wearing a feline mask and is carrying an axe on one hand. He is also usually carrying in his belt, or sometimes in his hands, some representation of the famous "trophy-heads," or heads severed off enemies and borne as trophies.

It seems that the Tiwanaku warrior covered part or all of his face with the head of an American cat, probably the animal skin, in his desire to assume the ferocity, agility and strength of the animal and to strike terror in his enemy. The sculptures which survive vary in size from four centimeters to one and one half meters in height. During the recent



The chachapumas are also represented through paintings on Tiwanaku ceramics (vase excavated by Bennett)

International Seminar on Archaeological Excavations in Tiwanaku, two archaeologists, Manzanilla and Boudoin recounted their discovery of a magnificent example of these "puma men" sculpted out of basalt.

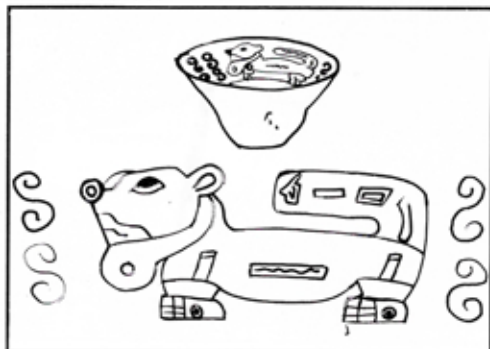
Pottery, sculpture, metallurgy, stonework, and bonework all achieved new heights of perfection. Although we do not have material evidence because of the climactic conditions, we can assume that the most developed art and techniques were those of weaving. Ethnohistorical data have revealed that no other art was as developed in the Andean region. Not even gold and silver work enjoyed as much importance.

The Spanish *conquistadores* observed that a good percentage of the population spent their time in work related in some way to weaving - shepherds, shearers of llama skins, the collectors of material for dyes, spinners of thread, dyers, and even those who with extraordinary skill wove the textiles of which thousands were burned every day as offerings to the Sun God Inti in Cuzco.

Teresa Gisbert and her team of research-

ers have shown that in contrast to the Old World where architecture, painting and sculpture were regarded as the greater arts, in the Andean World weavings headed the list: Archaeological evidence has revealed that the people of Tiwanaku also achieved an extraordinary level of skill and beauty in their weavings.

To be sure, the weavings were discovered on the Pacific coast where the climate was very different from the altiplano, where the extremes of the weather have not allowed whole pieces to survive. But for all that, it is not implausible to imagine an extensive use of weavings in Tiwanaku. For example, it's possible that the walls and floors of buildings were decorated with beautifully-woven multi-colored tapestries, and that stone idols were adorned with the finest clothes.



*Classic ceramic from Tiwanaku
(according to Bennett drawing).*

This may seem like an exaggeration. But recent archaeological investigations have shown that various gold and silver Inca idols, which decades ago were thought to have no other ornamentation, have now been discovered to have been buried along with luxurious clothing, headpieces of multicolored feathers and tupus (pins) also made of metal.

We should add that traces of wall paintings have recently been discovered in Tiwanaku homes, another surprising fact about this altiplano culture.

About the size of Tiwanaku: In 1968 Jeffrey Parsons asserted that the city of Tiwanaku could have spread over 2.4 sq. kms, and could have had a population of 20 - 25,000 people. Four years later, using aerial photography, Ponce suggested that Tiwanaku at its height spread over 4.2 sq. kms, and supported a population of 46,800 inhabitants. Of course, North American scholars who had always maintained that Tiwanaku could never have been a city, but only a ceremonial center or a center of pilgrimage, found it difficult to accept the hypothesis of a Bolivian archaeologist.

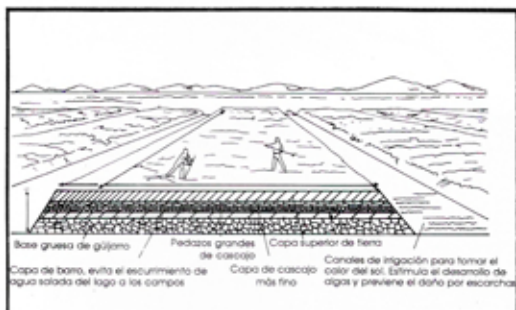
It wasn't until 1978 that excavations carried out in Pampa Koani by Oswaldo Rivera and Alan Kolata showed that Tiwanaku could have supported a population even greater than that suggested by Ponce. The elevated fields (*suka kollus* or ridges) discovered in Pampa Koani were capable of producing subsistence food in huge quantities. As to Tiwanaku's size, recent work by Kolata and Matthews in 1989 has increased its extension to between 6 and 8 sq. kms. If we use these estimates and the same calculation as Ponce, we could arrive at the figures of 66,857 and 89,143 inhabitants respectively.

The *suka kollus* or ridges mentioned above are raised fields spread over a large area near Lake Titicaca to the north of Tiwanaku, and in other areas. Albarracin and Matthews calculate that this complex of clearly discernable raised fields stretches 30 sq. kms, or a maximum of 65 sq. kms, of which 35 sq. kms are barely discernible.

The fields are rectangular platforms parallel to each other, and separated by canals. The width of the fields is 6 meters and that of the canals 3 meters, although these figures can vary. In Pampa Koani, you can see fields more than 200 meters long. The furrows or canals next to the ridges were used not only to flood the land in a controlled manner (when Lake Titicaca and the river Katari were swollen), but also to bring fish,

marsh plants and other organic matter to enrich the earth in the ridges.

In addition, the water collected in the canal absorbed the sun's rays during the day and transmitted heat into the earth during the night. In this way the farmers avoided the terrible frosts which are still to this day the worst scourge of crops grown on the altiplano. Moreover, the evaporation of water in the canals due to the sun's heat created a micro-climate favorable to the growth of plants.



*Raised cultivation fields or Suka Kollus.
Reconstructed drawing by Krohn
(in "Secrets of Tiwanaku" by Mullen)*

The agro-archaeological Wilajawira - Rehasuk project, co-directed by Kolata and Rivera, has carried out trial sowings in the raised fields, which have obtained good results - 42 tons of potatoes per hectare. Also, each potato revealed an unusual size, some of them reaching two pounds in weight. No wonder Ponce called Tiwanaku the "culture of the potato," although obviously the fields were used to grow quinoa and oca in addition to potatoes.

Tiwanaku Religion: Because of the absence of written information, we have to admit that we know little about what the Tiwanaku people believed in. When the Spaniards came, they suppressed most of the native beliefs, which were so different to those of the Spaniards' that the conquerers considered them to be demonic and condemned them to disappear. But despite the great efforts of the Spanish to "stamp out

these idolatries," many of the old beliefs survive in the Andean world to this day. For example, people still worship the Mother Earth or the Pacha Mama, the mountains, the reflections in water, and meteorological elements.

Some Andean gods were disguised as Catholic saints, as for example in the case of Illapa (the god of sunrays) as the Apostle Saint James, or Pacha Mama as the Virgin Mary. In this way a few gods managed to survive. But others like Inti (the Sun-God), who was the most important deity for the Incas and who at first was syncretized with the Catholic God, has recently disappeared, probably because he was established for a shorter period in the pre-Colombian Andean world.

We do not know who the Tiwanaku deities were. However, it is reasonable to assume that the gods which the indigenous people worshipped when the Spanish invaders arrived would have been the same as the ones worshipped and perhaps introduced by the people of Tiwanaku.

There is no disagreement amongst scholars as to the religious nature of the great number of stone steles and monoliths that existed in Tiwanaku, of which only a few now remain. They are representations of gods or at least very important priests. However, we don't know who they are nor even if each sculpture represents a different person, or if they are various versions of the same person.

At least we can be sure it is just one person in the case of the figure represented in the centre of the "Gate of the Sun God". The first studies that were done of the gate assumed that the figure was the Sun-God, from where the gate got its name. But as we have already explained, the worship of the Sun-God was introduced at a later date by the Incas. Other researchers such as Mason and Kauffman thought that the figure was Viracocha whom historians like Cobo denote as the Creator God.

The central figure of the Gate of the Sun has been the subject of various interpretations, but the mystery behind him persists and will persist in the future. What is certain is that the "god of the staffs," as the more cautious scholars prefer to call him, first appears in Chavin in the northern sierra of Peru, although in the style of the dominant culture there. From there the God spreads towards the south until he arrives at Tiwanaku where he is more powerful and more splendid.

The same image is repeated in all the Tiwanaku iconography in a prolific manner. The God of the Staffs adorns hundreds of stone sculptures, ceramic vases depicting figures, weavings, wooden tablets - in fact everywhere. The curious thing is that the face of this figure is not that of a living being, but the representation of a mask.

My own view is that the high priest who started the cult did not let the people of the altiplano see his face. The mask gave him respect and made the people afraid. The priests who came later always used the same mask so that the figure became immortalized.

Archaeologist Cordero Miranda discovered a monolith near Kalassasaya which was excavated some years ago and put in the local museum of Tiwanaku. The piece is of exceptional importance because, although it is a man-like figure in contrast to other steles, it is not a sculpture in its form but a type of pillar from a rectangular section where the upper extremities and the staffs stuck to them are in high relief - an unusual technique in Tiwanaku sculpture. What really attracts one's attention is that the face appears covered by the mask of the God of the Staffs and in the same form.

The God of the Staffs appears in different places throughout the empire such as San Pedro de Atacama in Chile, and Wari in Ayacucho, Peru. It's likely that the cult of the god would have served the state of Tiwanaku as a means of subjecting other people to

their rule first by imposing their religion, and then by imposing their economic, social and political systems.

So who was this god? Why did the people of Tiwanaku adopt him as their principal god? Was he a way to bring together the empire throughout the altiplano? Perhaps we will never know the answers to these questions.

The Imperial Stage: In the 7th century AD comes the third stage or the Imperial Stage, also known as the Age of Expansion because of the vast area over which the empire spread. It was a political act of huge importance. The empire encompassed an area estimated by Ponce to cover 600,000 sq. kms, which reached the Pacific coast in the West, the sierra and the altiplano in the middle, and the warm Andean valleys in the East. Of course these areas were inhabited before the expansion of the Tiwanaku people, so there was an intermingling of cultural expressions.

New administrative centers had to be set up throughout the territory. One of these was probably Wari, which in time came to ri-



Posnansky drawing of the central figure on the door of the Sun or "Dios de los Báculos".

val Tiwanaku for its size in much the same way that Byzantium came to rival Rome.

The discovery of bronze probably gave the Tiwanaku people an unrivalled superiority in war, which led them to wage a series of battles.

The arts generally suffered a rapid decline during this period as territorial expansion and related problems took first priority. Products had to be manufactured on a mass scale and so their artistic merits were neglected.

Collapse: Suddenly around 1150 AD the empire collapsed, but the causes are still not known. The theories expounded for more than half a century have become more varied and more far-fetched. There are no traces of the cataclysm which Posnasky spoke of - in any event a cataclysm could cause a city to disappear but not an empire. It is also unlikely that there was a foreign invasion, as again there are no traces of it.

More recently Huidobro has taken up again the theory of a catastrophe, due to "climatic chaos" characterised by changes in the atmosphere. Much in the style of the "universal flood," heavy and prolonged rain-falls were supposedly followed by long periods of drought which affected not just the

Andean region but all America.

The more sensible theories are those put forward by Ponce for Tiwanaku, and Lumbreras for Wari, both of them city-states which were intimately connected and collapsed around the same time. Ponce thinks that the fall of Tiwanaku was perhaps due to political disintegration linked to a stage of bad harvests and the exhaustion of state deposits. This caused disunity throughout the altiplano and the emergence of regional centres of power in constant dispute with each other. Lumbreras thinks that the urban-rural contradiction caused political structures to disintegrate. My own view is that the rivalry between Tiwanaku and its administrative centers with their own regional power base caused the political disintegration envisaged by Ponce.

Once you have visited Tiwanaku, you have to admit that it is one of the most important heritages of the Andean people. As the Bolivian archaeologist Oswaldo Rivera has said, Tiwanaku is also a reminder to Bolivians that their past glory can also be their present and their future. That's why today we can relight the fire in TIWANAKU.

Chuquiago, April 24, 1991.

