

Atlantis: Lost Kingdom of the Andes

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ABSTRACT

I agree with the words of a professor from Newcastle speaking on a radio interview where he said, - "if a site is to be considered as the site of Atlantis, then it must reasonably conform to the description of Atlantis as given by Plato."

At the present time, not only do the majority of sites put forward as the site of Atlantis not conform to the geographic description given by Plato, they are virtually the opposite of the description given by Plato.

The previous Atlantis Milos conference put forward a list of 24 attributes it considered appropriate for the location of Atlantis.

Of these attributes, it can be readily established that the Bolivian Altiplano conforms to at least 20 and has many more not listed by the conference.

1. INTRODUCTION

Plato, writing in his works *Timaeus* and *Critias* described an island of continental size with a wonderful civilisation which he said existed at one time at "a distant point in the Atlantic Ocean" (R.G. Bury translation) opposite the "Pillars of Hercules", usually defined, as the Strait of Gibraltar. He called the continent Atlantis and said it sank into the sea in the space of a single day and night. Thus arose the legend of the lost continent of Atlantis.

1.1 *The Problem:* Modern geology says a continent cannot sink beneath the sea in the space of a single day and no such continent has sunk into the Atlantic Ocean.

1.2 *The Real Problem:* The question has always been, was Plato's Atlantis based on a real place and real events, or was it simply a story he made up?

1.3 *The Test:* The test must be this, is there a geographic location or sequence of events that matches the actual description given by Plato?

1.4 *The Solution:* The lost continent of Atlantis is still there opposite the Pillars of Hercules (Strait of Gibraltar) only now it has been re-named *South America*.

The key to the mystery of Atlantis is that Plato is describing both a large continent and a small volcanic island of the same name. The continent had a large, level rectangular plain at its centre and

in the centre of the plain was the small volcanic island which later became the city of Atlantis. It was only the small island city which sank into the sea and not the entire continent.

Atlantis was according to Bury (1929) "at a distant point in the Atlantic Ocean, larger than Libya and Asia together and it was possible for the travellers of that time to cross from it to the other islands, and from the islands to the whole of the continent encompassing the veritable ocean." (Timaeus 25A) – thus meaning from Atlantis via the Pacific islands to the continent of *Eurasia*.



Figure 1: From the continent of Atlantis, (now called South America) one could cross via other islands to the opposite continent, meaning, Asia.

1.5 Background: Plato's description exactly fits South America because that is the continent which is opposite the Pillars of Hercules and because the level rectangular plain he described is to be found in the centre of that continent, midway along the longest side exactly as he described it. The city in turn lay on the level rectangular plain, 50 stades (five miles or 8 km) from the sea which is an *inland sea* and according to Plato the whole region was high above the level of the (Ocean) sea, rising sheer out of the sea to a great height (Critias 118A). Thus we have both a lost city of Atlantis as well as a lost continent of Atlantis.

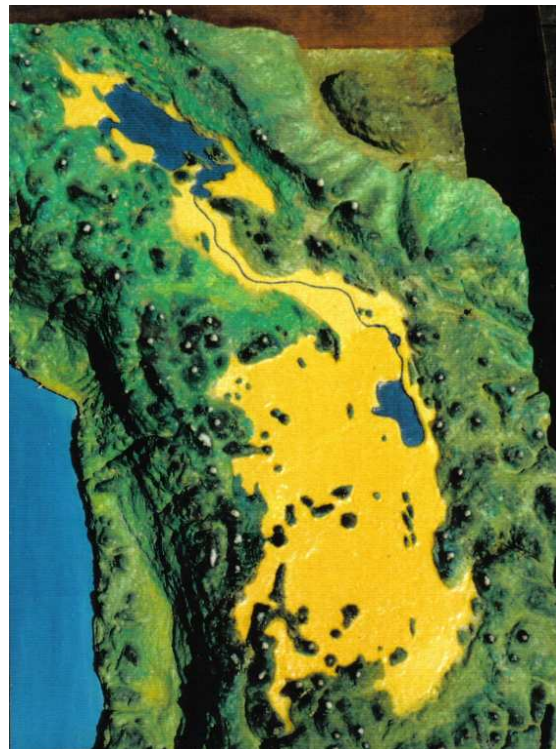


Figure 2: (left) Model of the island continent with the rectangular level plain arrowed. Figure 3: (Right) Model of the level rectangular plain translated by R.G. Bury as "bordering on the sea and extending through the centre of the whole island." (Critias 113C). The translation from Plato by Sir Desmond Lee tells us "in the centre of the island near the sea was a plain which was enclosed by mountains, and the region as a whole was *high above the level of the sea*. The plain was uniformly flat, rectangular in shape and he adds the footnote, "i.e. midway along its greatest length."

1.6 *Therefore:* It was not the continent of Atlantis which sank into the sea, but the island capital of the same name, built around a volcanic island which sank into the inland sea of Lake Poopo, 67° W, 19° S which exists on the edge of the rectangular plain presently called the Bolivian Altiplano.

Modern satellite mapping shows the plain, now called *the Altiplano* to be of rectangular configuration, perfectly level, and enclosed on all sides by mountains.

Sinking into the Sea, people sometimes say; "How can Atlantis be in the Andes when it is supposed to have sunk into the sea?" We must remember that Atlantis according to Plato was on a level plain which was "*high above the level of the sea* and enclosed by mountains."

Yet the city was on a level plain and only 5 miles (8 km) from the sea and connected to the sea by a canal. The only way the city can be on a level plain and 5 miles from the sea and yet at the same time "high above the level of the sea" is if there are in fact *two seas*, that is here, the *Ocean Sea* enclosing the island continent and the *inland sea* adjacent to the city. In fact the entire plain has been periodically *submerged beneath the sea* i.e. it became a giant inland sea at various dates going back thousands of years succeeded by dry periods.

2. KEY FEATURES

There are certain key features which a site ought to comply with if it is considered to be Atlantis. We have already mentioned that it should have been located on a continent opposite the Strait of Gibraltar, but then in the centre of this continent and next to the sea, there should be located a level, rectangular-shaped plain. The translation by Sir Desmond Lee even mentions that the plain was located "midway along its greatest length."

No other proposed Atlantis site in the world, whether above water or under water, has a level rectangular plain *which can be verified* in the manner outlined and illustrated above.

3. THE CANALS

Another of the key features described by Plato, was a large canal which ran around the perimeter of the level plain and a system of smaller canals parallel to each other which criss-crossed the plain at regular intervals.

These were joined by intersecting canals at right angles and used for transportation by boats of the season's products.

Looking for evidence of a canals system on the Altiplano has been a key feature in the search for evidence. Satellite images showed a very large channel similar to the giant canal which Plato described just to the west of Lake Poopo and when this was visited on site, it still had water in the base due to the fact that the channel was supplied by water from wells drawing water from underground sources.

Plato: "*It seems incredible that the canal should be so large as the account states, but we must report what we heard, the width was one stade...*" (*Critias* 118C)

The Greek stade measured 185 metres, but other values of "stade" are also known.



Figure 4: Looking into a section of the giant channel 1 stade wide which Plato said ran right around the plain. The canal is fed by underground springs and has a ribbon of water even in the height of the dry season.

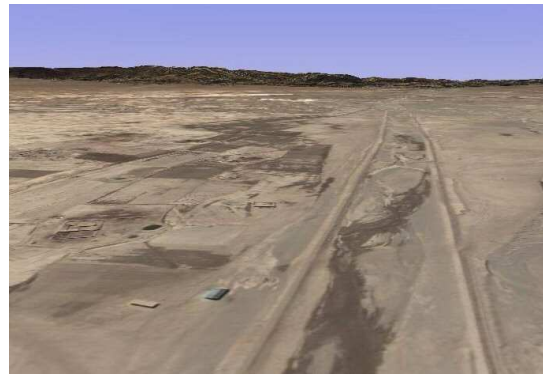


Figure 5: (left) The satellite technology measures a section of “giant” canal 200 ft (60 metres) wide. Figure 6: (right) oblique satellite photo looking into canal 200 ft (60 metres) wide.

Recent high resolution satellite imagery shows the area just south of Oruro and bordering on Lake Poopo to be completely covered in a system of parallel canals similar to Plato's description.

These canals appear to be about 5 ft (1.5 metres) wide and have interconnecting transverse channels whilst some exist in a chequerboard pattern and even extend under the rio Desaguadero and what is now Lake UruUru (part of Lake Poopo).

Canals are certainly a feature of the area which still suffers today from alternating drought and flooding.



Figure 7: (left) High resolution satellite images show parallel canals south of Oruro near Lake Poopo. Figure 8: (right) canals in a chequerboard pattern. See <http://www.atlantisbolivia.org/atlantiscanals.htm> for more detailed images.

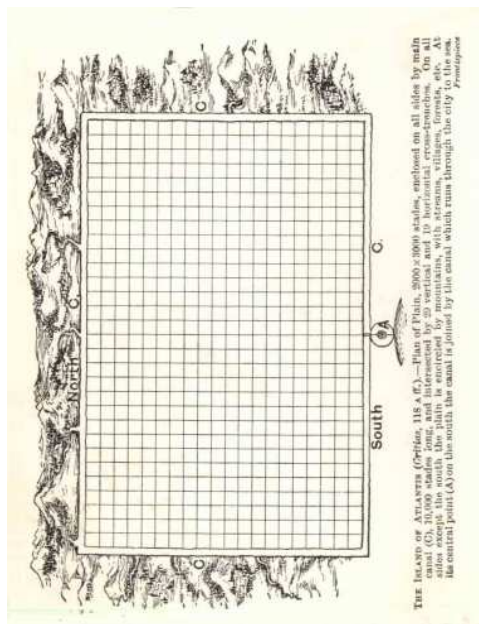


Figure 9: (left) Traditional drawing of the plain and canal system 3000 x 2,000 stades with Atlantis at its centre. Note the wide, perimeter canal and the smaller criss-cross canals. Figure 10: (right) Drawing of the Altiplano with theoretical canals using a smaller stade of 92.5 metres and showing the location of Pampa Aullagas where the city should be,

4. THE ISLAND OF CONCENTRIC RINGS

The most distinguishing feature of Atlantis and one which even the Milos International Atlantis conference doubted might exist, was that the main island of Atlantis which Plato described first of all as the home of Poseidon and later as the site where the city of the descendants of Atlas reigned, was comprised of a central island *surrounded by alternating rings of land and water*.

Plato: *"There were two rings of land, and three of water, which he turned as with a lathe, each having its circumference equidistant every way from the centre."*

It took five expeditions on the Bolivian Altiplano following the Atlantis Trail to find a location which matched Plato's mountain which was low on all sides and in the centre of the plain next to the sea. This site is presently called Pampa Aullagas at the southern end of Lake Poopo.

Plato: *"near the plain, over against its centre, at a distance of about 50 stades, (from the sea) there stood a mountain that was low on all sides."* (Critias 113C)

The volcanic cone, 5 stades in diameter lies in the centre of the level rectangular plain, 50 stades from the sea and is enclosed by a volcanic low plateau containing three concentric sandy channels which formerly held water, separated by rings of land.

The surrounding plain has sunk in elevation and the nearby inland sea has receded leaving the island as a volcano on dry land.

In the wet season, Pampa Aullagas becomes an island and before the sinking of the surrounding plain, the water from the lake could have entered the volcano, filling the natural depressions making circular canal-like harbours and in fact, around 11,500BC the waters of Lake Poopo (known as paleolake Tauca) were at the correct level to enter the volcano creating circular rings of water.

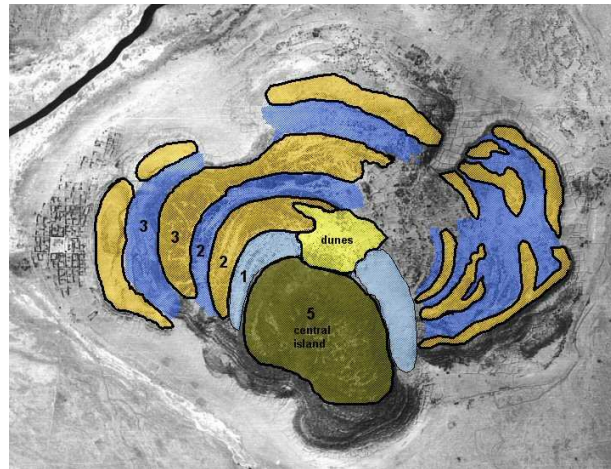
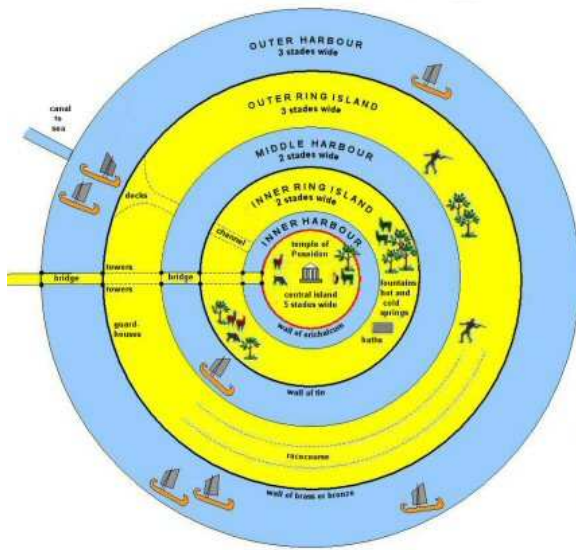


Figure 11: (left) Plan of the island city of Atlantis. The central island was said to be 5 stades in diameter, surrounded by a ring of water 1 stade wide, then a ring of land of 2 stades and a ring of water, 2 stades, then a ring of land 3 stades in turn enclosed within a ring of water 3 stades wide. (Critias 115E). Figure 12: (right) Air photo showing sandy canals as they may appear when filled with water.

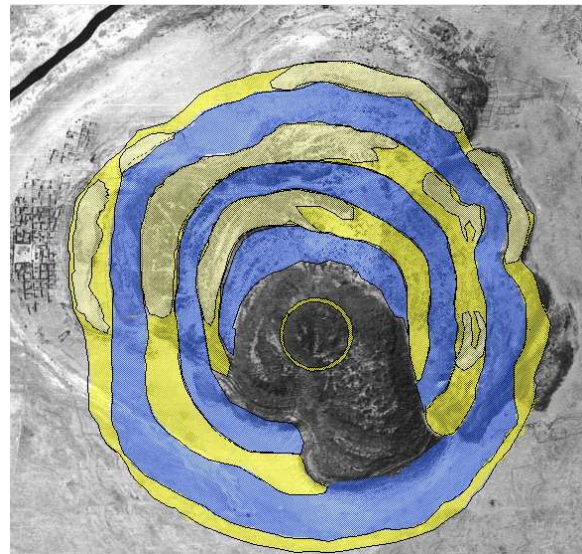
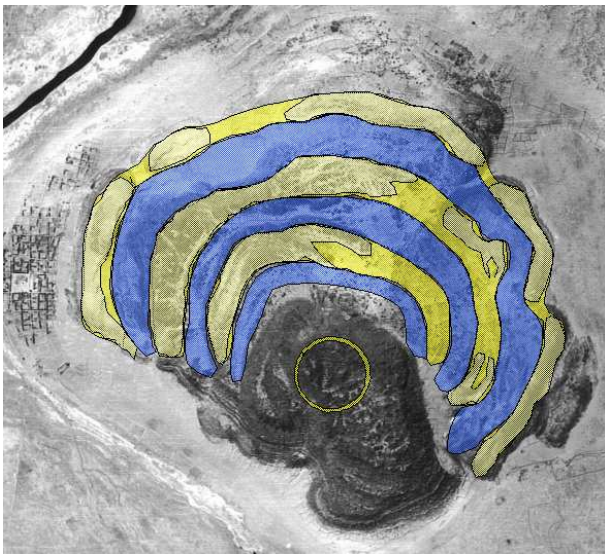


Figure 13: (left) Restored rings of land. Figure 14: (right) It is not known whether the outer ring of rock may have continued on the southern side but it seems probable that it did and was subsequently destroyed by the earthquakes which sank the island, shown here in this reconstruction.

The innermost channel, 1, is now at a higher level up the volcano so it is not clear whether this was originally part of Plato's scheme or whether this part of the island has risen in elevation, or there may have been another ring of water surrounding the volcano on the level plain. However, Plato did say the circular rings were "carved out of the island" and that they "bored through the rock" to reach the outer circle of water, so logically there should have been a ring of land or rock on the outside to contain the outermost water circle, shown here as the embankment just behind the village of Pampa Aullagas, between the village and water ring 3.

The site appears to have suffered considerable damage from earthquakes. Some parts have sunk, others risen in elevation whilst others appear to be twisted round and even moved sideways, as if struck by a huge force from the west and north. In the above photo, the outer ring of rock has been joined up and the eastern arm of the volcano moved closer into the centre to align the canals and show how it may have looked using Sumerian stades of 165 ft (50.3 metres).

The rings fall in the correct proportions of 1 stade of water, 2 stades of land, 2 stades of water, 3 stades of land and 3 stades of water.

The centre island 5 stades in diameter is shown to scale at the top of the steeply sided volcanic cone which is about 5 stades in diameter on the summit and 10 stades in diameter at its base.



Figure 15: (left) View of former "belt of sea" . Figure 16: (right) Middle canal on south east side

As to the perfectly circular canals we had imagined based on popular drawings, I looked up Platos words again and he said in the beginning..... "Near the plain at a distance of 50 stades (from the sea) there stood a mountain that was low on all sides. And Poseidon, to make the hill impregnable broke it off all round about; and he made circular belts of sea and land enclosing one another alternately, some greater, some smaller, two being of land and three of sea, which he carved as it were out of the midst of the island." (Critias 113D)

5. THE RED, BLACK AND WHITE STONES

Before leaving the actual site itself, another important factor which may be easily demonstrated on this site is that Plato mentioned that the buildings were made of red, black and white stones, intermixed to give a pleasing appearance. All three colours of stone are to be found at Pampa Aullagas, some looking as if they are fragments from stones used in former buildings though no ancient buildings themselves remain.



Figure 17 (left) red stone, (centre) black stone, (right) white stone: all three colours are found at Pampa Aullagas

Plato said the three colours of stone were blended in the buildings to give a pleasing appearance. Inside the church in the nearby village of Quillacas, the tradition of mixing the stones of different colours continues to this day and may be seen by visitors there.

6. THE METALS

Amongst the numerous features mentioned by Plato, we should also mention the metals. Plato: *"The wealth they possessed was so great that the like will never easily be seen again."* (Critias 114D)

The walls of the city were said to be plated in metals which to us were rare and valuable, but to the original inhabitants were common and plentiful.

Amongst these were gold, silver, copper, tin and a mysterious alloy called "orichalcum".

The main motivation for the Spanish Conquest of the continent was the abundance of precious metals to be found there.

The gold of Peru is already famous in the world, and the silver from the mines in Potosi in Bolivia was a rich fountain of wealth which drove forward the Spanish Empire. Near the mountain of silver in Potosi there is another mountain of tin, which is also a rare metal not found in many places in the world.

So, right around the edge of lake Poopo and the Atlantis site at Pampa Aullagas we have all the metals mentioned by Plato, the largest gold mine in Bolivia at La Joya, the mountain of solid silver at Potosi, tin mines at Huanuni, tin and silver at Oruro and a natural mine of Orichalcum at Urukilla.

The metal which puzzled people most of all, was Plato's description of "Orichalcum" since it was the second most valuable metal then known, (Criatias 114E, 116C) it could be polished and "sparkled like fire" and there were mines of it throughout the island.

R.G.Bury considered it might have been "mountain copper" but in fact a natural alloy of gold and copper matching Plato's description exists in the Andes where it is called *Tumbaga*.

Not only that, but when the gold/copper alloy is heated then the object immersed in a solution of alum, the copper dissolves from the surface to leave an object with the appearance of pure gold. The object can then be polished to consolidate the gold atoms on the surface and further enhance the sparkling, golden appearance.



Figure 18: (left) An object of Orichalcum (tumbaga) after treatment looking like gold, (centre), a mask and collar of Orichalcum, (right) orichalcum twins from Cocle, Panama.

7. HOT AND COLD SPRINGS

Hot and cold springs were a feature of Atlantis and used for public baths.

Plato: *"The springs they made use of, one kind being of cold, another of warm water, were of abundant volume.... and, moreover, they set reservoirs round about, some under the open sky, and others under cover to supply hot baths in the winter."* (Critias 117A)



Figure 19: (left) cold springs near Pampa Aullagas. Figure 20: (right) Typical hot spring on the Altiplano. At Paria, to the north of the lake they provide hot water for a swimming pool and at Pazna to the east of lake Poopo, they provide hot water for a spa with individual baths.

8. LOCAL LEGEND

Most remarkable of all, a Bolivian legend called *The Legend of the Desaguadero* tells of a city on the edge of a lake, it falls into evil ways and in exactly the same manner as Plato's is punished by the gods and submerged by the sea. Furthermore, the god of the sea is called *Tunupa* in the Aymara language, and it was Tunupa (i.e. the sea god and equivalent of Poseidon) who is said to have created the ringed formation at Pampa Aullagas. Not only that, but Tunupa is also said to have disappeared beneath the waters of lake Poopo near *Pampa Aullagas*.



Figure 21: (left) Tunupa watches over the city but the chief of the gods is watching over Tunupa: Figure 22: (centre) The city is punished with rain and lightening. Figure 23: (right) The city is drowned in the lake.

9. FIVE PAIRS OF TWIN SONS

In Plato's version, the wife of Poseidon had five pairs of twin sons (Critias 113E) and in Inca legend, according to Gamboa (1572) after a great flood, Viracocha, the Inca name for the God of the Sea, "adopted" five pairs of sons.

The Inca historian Guaman de Poma (1615) tells us the first inhabitants were born in pairs. Additionally, The Aymara kingdoms which existed on the Altiplano also existed in pairs, so there can be no doubt that the story of Atlantis had its origins in a Bolivian legend.

The test of any theory is first to write the theory, then to see if the observations fit the premises of the theory. The Altiplano is the only site that fits practically all of the *geographic points* of Plato's description. Whether an actual city existed in the exact manner described by Plato is more difficult to establish since it is not known to what extent he may have embellished the original legend.

But clearly we have geographical evidence, geological evidence and mythical evidence from Bolivia, as well as the fact that the level plain is itself eminently suitable for the water canal based culture Plato described, and the water canal culture continues to this day.



Figure 25: Remains of Atlantis, at Pampa Aullagas, "the mountain that was low on all sides." One can see how as Plato said "the lips of the land circles were raised just above the level of the sea."

10. NAMING OF THE CONTINENT

We also have another form of evidence in the manner of the naming of the continent itself. The continent remained lost from knowledge until 1492 when rediscovered by Christopher Columbus sailing west in an attempt to reach the Indies.

In 1507 the German cartographer Waldseemuller produced a map of the newly found continent, described by Fernández-Arnesto (2006). Waldseemuller decided to name the continent "America" in honour of the navigator Amerigo Vespucci who was first to recognise that the continent was a continent in it's own right, instead of being part of Asia as Columbus had thought.

So the newly discovered continent came to be called America, but at the same time many people thought that what Christopher Columbus had in fact discovered was Atlantis. This was definitively stated in "The History of the Incas" written by the great historian and classical scholar Sarmiento de Gamboa (1572) following an official inquest into the true history of the Incas with the backing of the Viceroy of Peru. Sarmiento de Gamboa's book clearly states that South America was Atlantis and at the time he was writing was known by the names of "the Western Indies of Castile or America also called Atlanticus or the Atlantic Island". Sarmiento de Gamboa's book was sent to Philip II, king of Spain in 1572 and never heard of again being LOST for 300 years until it was discovered in a library in Germany in 1893 and republished in 1906.

No attention was given to the fact that the southern continent already had an indigenous name given by the Incas before the Conquest. Their name for the continent was "Tahuantinsuyo" meaning "Land of the Four Quarters".

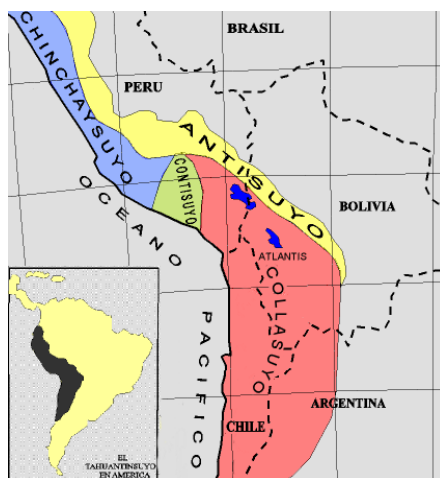


Figure 26: Location of Atlantis and Antisuyo in the empire of Tahuantinsuyo.



Figure 27: Antis Indians of Peru, 1869.

One of these quarters was called "Antisuyo" meaning the kingdom of the Antis. Antis is an Inca word meaning "copper" which could refer to the abundance of copper on the

continent or the people themselves who are also copper coloured and a tribe of natives living to this day on the eastern slopes of Peru is known as the "Antis". The very name of the Andes themselves is also thought to be a corruption of the word "Antis".

"Atl" is an Aztec word meaning "water" and the combination of "atl" and "antis" an excellent name for this continent since large parts of it are in fact under water in the wet season with severe flooding throughout Amazonia and Beni regions and also on the Altiplano itself.

11. ELEPHANTS

One of the frequently read comments is that there were no elephants in South America, but in fact there were mastodons which is a species of elephant and remains of mastodons may be seen in the museum in Tarija to the south east of the Altiplano.

12. ANIMAL SACRIFICE

Another comment re bulls sacrifice, the animals which were sacrificed were probably llamas, since this is common practice on the Altiplano as was drinking a mixture of the llama's blood from golden goblets in ancient rituals and even today offerings are thrown into the sacred fire as offerings to the gods...

Plato stated that he gave all the original names Greek equivalents "to make it more agreeable to his readers", it is important to remember that he never actually visited the site himself and neither the ancient Greeks nor ancient Egyptians had probably ever seen or heard of a llama, thus "bull" was substituted, just as "trireme" was substituted for whichever type of ship or boat was originally used and stade was used for the unit of measurement.

13. RECENT DEVELOPMENTS

Recent events have overturned previous conceptions about the history of South America.

In August 2004 the international Akakor expedition discovered ancient walls dating to 4,000BC submerged under lake Titicaca. There is also the recent discovery of pyramids at Caral in Peru which date to 2627BC, contemporary with the oldest pyramids in Egypt and older than Cheop's Great Pyramid in Egypt, and including even more recently, remains of a 5,500 yrs old plaza..

Mummies found near Arica in Chile are also older than the oldest mummies in Egypt.

Also on the shores of Lake Titicaca was discovered a large stone dish known as the Fuente Magna and covered in proto-Sumerian cuneiform writing.

14. HORSES, CHARIOTS AND SHIPS

Although the geographic description of Atlantis clearly belongs to South America, the description of horses, chariots, the fleet of ships etc is somewhat more problematical.

We must remember Plato's stated objective in the Atlantis story, which was to find a suitable enemy which could be seen to be defeated by his ancient city of Athens, or ideal state. (Timaeus 19C, 20B, 20D)

So Atlantis becomes a great power, with 10,000 chariots and 1200 ships (Critias 119B) although again I would mention that 1200 was the number of ships sent against Troy so in the end the story apart from the geographic description of South America, has elements both of the "Sea Peoples" as the confederated nations, and Troy and subsequent Persian Wars as the finest of the deeds the Athenians accomplished.

15. THE DATING

The dating is a difficult question, some factors point to an early date, such as the mastodons mentioned above, yet Plato tells us that "9,000 is the sum of years since the war occurred" and he is describing the foundation of Athens and the "finest of the deeds the Greeks achieved."

If we substitute lunar "years" for solar years, this would bring the date down to around 1260BC and the Trojan war which might correspond to the "finest of the deeds the Greeks achieved" while the "confederated nations attempting to enslave the eastern Mediterranean" would be what are usually called "the Sea Peoples", who attacked Egypt in 1220 and 1186BC, attempting to enter Egypt both by sea and with land armies all of which were defeated by the Egyptian pharaohs.

The "Sea Peoples" were a confederation of nations and it is not known for certain where all of them came from, yet since they attacked Egypt by entering from Libya there is a great similarity to what Plato called the confederation of Atlantis which he said controlled Libya up to the borders of Egypt and we should note that some of the "Sea Peoples" wore feathered headdresses similar to South American Indians and warriors from Mexico or Tiwanaku.



Figure 28: Comparison of the high feather headdresses of the Sea Peoples (left) to the headgear of Amazonian Indians, warrior from Tula, Mexico and warrior from Tiwanaku, Bolivia.

Traces of coca and tobacco have also been found in the remains of Egyptian mummies of this period and it seems possible that the story of Atlantis may have been brought to Greece from Egypt as Plato claimed, having arrived in Egypt through captive warriors of "the Sea Peoples", or maybe the traders who first brought coca and tobacco to Egypt.



Figure 29: Artist's impression "Atlantis on the Altiplano" by Lee Smart

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See <http://www.atlantisbolivia.org/athensfullpaper2.pdf> for part II
also <http://www.atlantisbolivia.org> for further photos and text.

