

THE PRIVILEGED ASTRONOMICAL POSITION OF ECUADOR KNOWN FROM THE TIME OF THE ABORIGINAL CULTURE QUITU-CARA, AND HOW THIS CAN STIMULATE THE YOUNG PEOPLE TO STUDY ASTRONOMY.



Geovanna Vásquez¹, Jorge Luis Enriquez¹, Cesar Costa Vera^{1, 2}.

¹Escuela Politécnica Nacional, Departamento de Física, Ladrón de Guevara E11-256, Ed. Ing. Civil Piso 1, Apartado 17-12-866, Quito-Ecuador.

²Grupo Ecuatoriano para el estudio Experimental y Teórico de Nano sistemas, Diego de Robles y Vía Interoceánica, USFQ, N104-E, Quito, Ecuador.



geovababy@hotmail.com

ABSTRACT

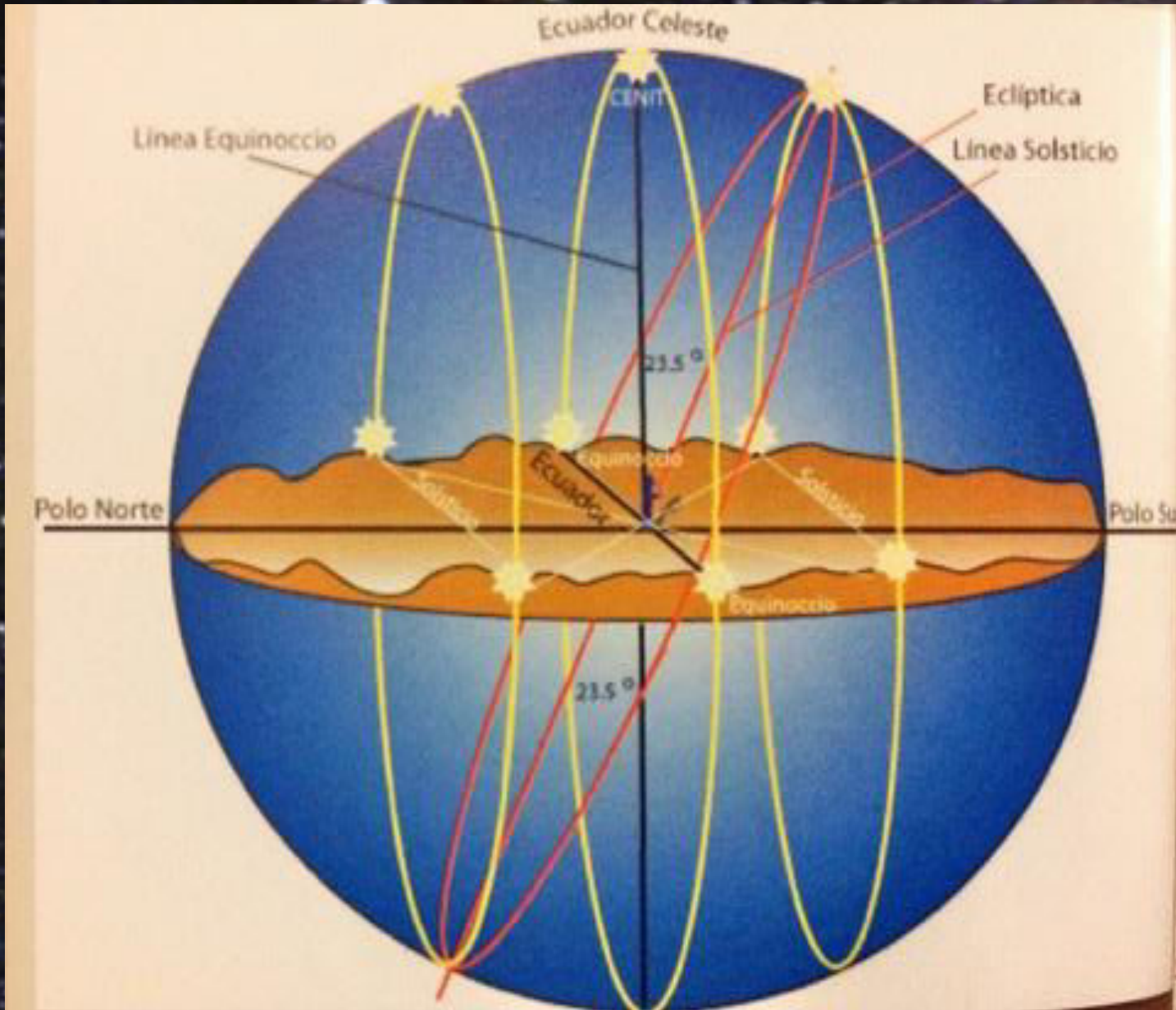
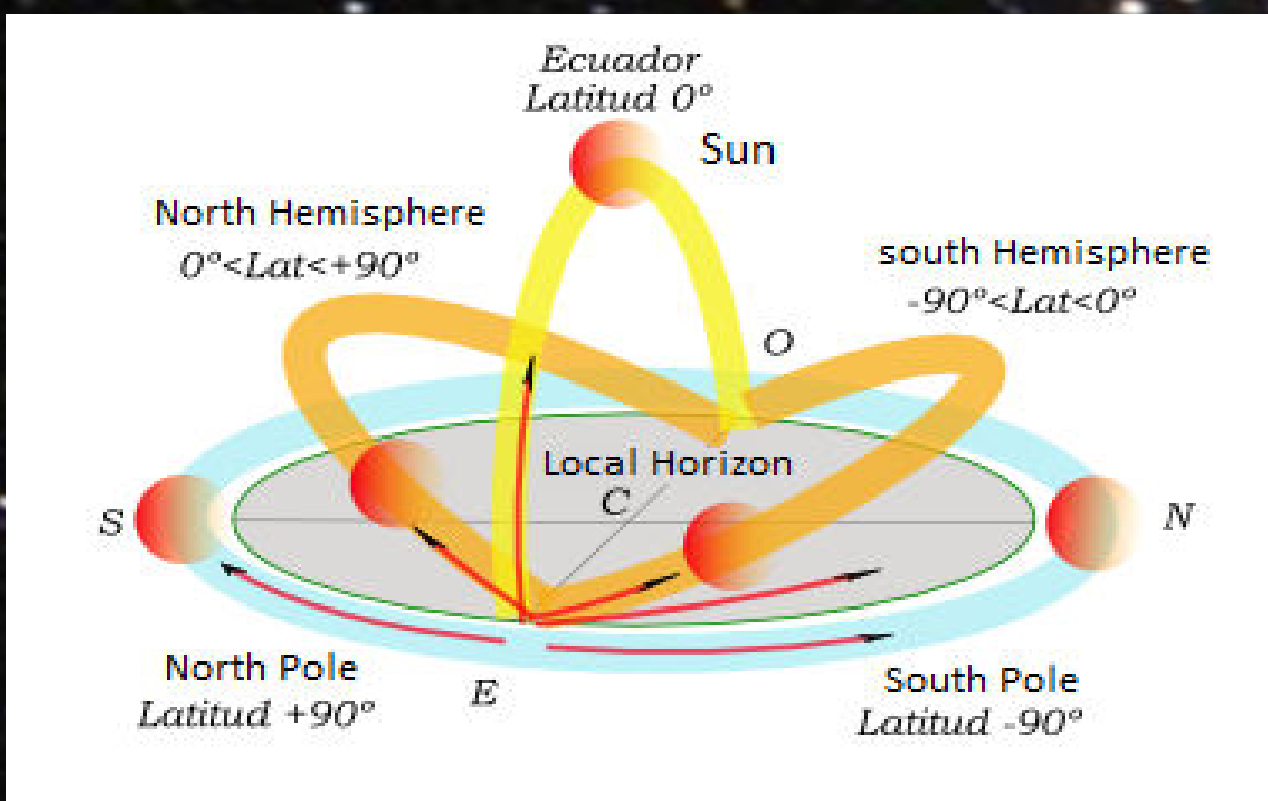
Since the beginning of mankind human beings have generated questions like where do we come from? Or where do we go? And the youth is who makes these questions more often. By studying Astronomy through the eyes of our ancestor we can try to understand not just the beginning of the universe, but we can understand the relations between our land, our planet and the universe itself or a possible outcome of it. For those young who wish to develop technology, a laboratory that has not been much explored is the space where unique conditions are given and different for both travel and life support. As well as knowing how to take advantage of the astronomical conditions to optimize the processes in our planet, as the Quito-Cara culture knew how to perform on it moment.

The Quito-Cara culture was characterized by being great astronomers which were given very easily by the geographic point that they chose as home, this astronomical consciousness is evidenced until today in different archaeological sites that show the cosmo vision and the acquired wisdom By my ancestors the Quito-Caras without the need for advanced instruments like those now counted to certify the latitudinal measurements.

PRIVILEGED ASTRONOMICAL POSITION OF ECUADOR

WHY IS ECUADOR CONSIDERED THE MIDDLE OF THE WORLD IF THE EQUINOCCIAL LINE PASSES FOR 17 COUNTRIES?

This is an ideal geography for horizontal astronomical observations, since it is the only site around the equator where we have a fixed horizon to be able to observe the departures, and apparent movements of the celestial bodies in the horizon and, Moreover, only in this latitude can we observe with integrity the entire celestial vault.

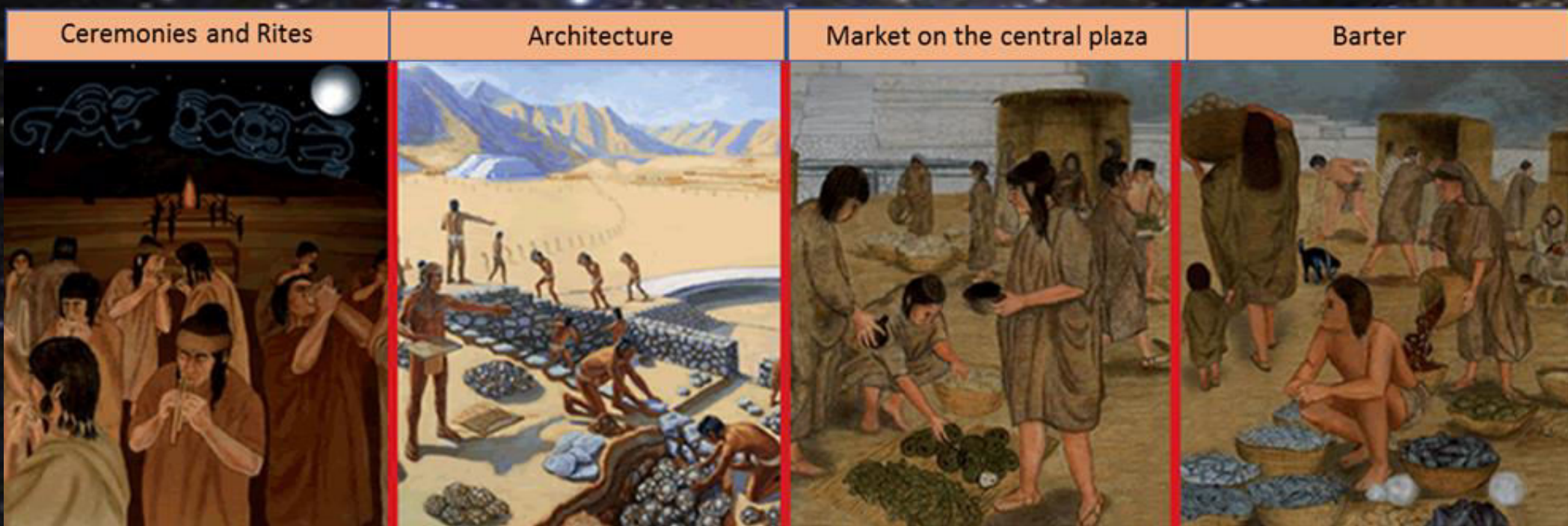


QUITU-CARA CULTURE

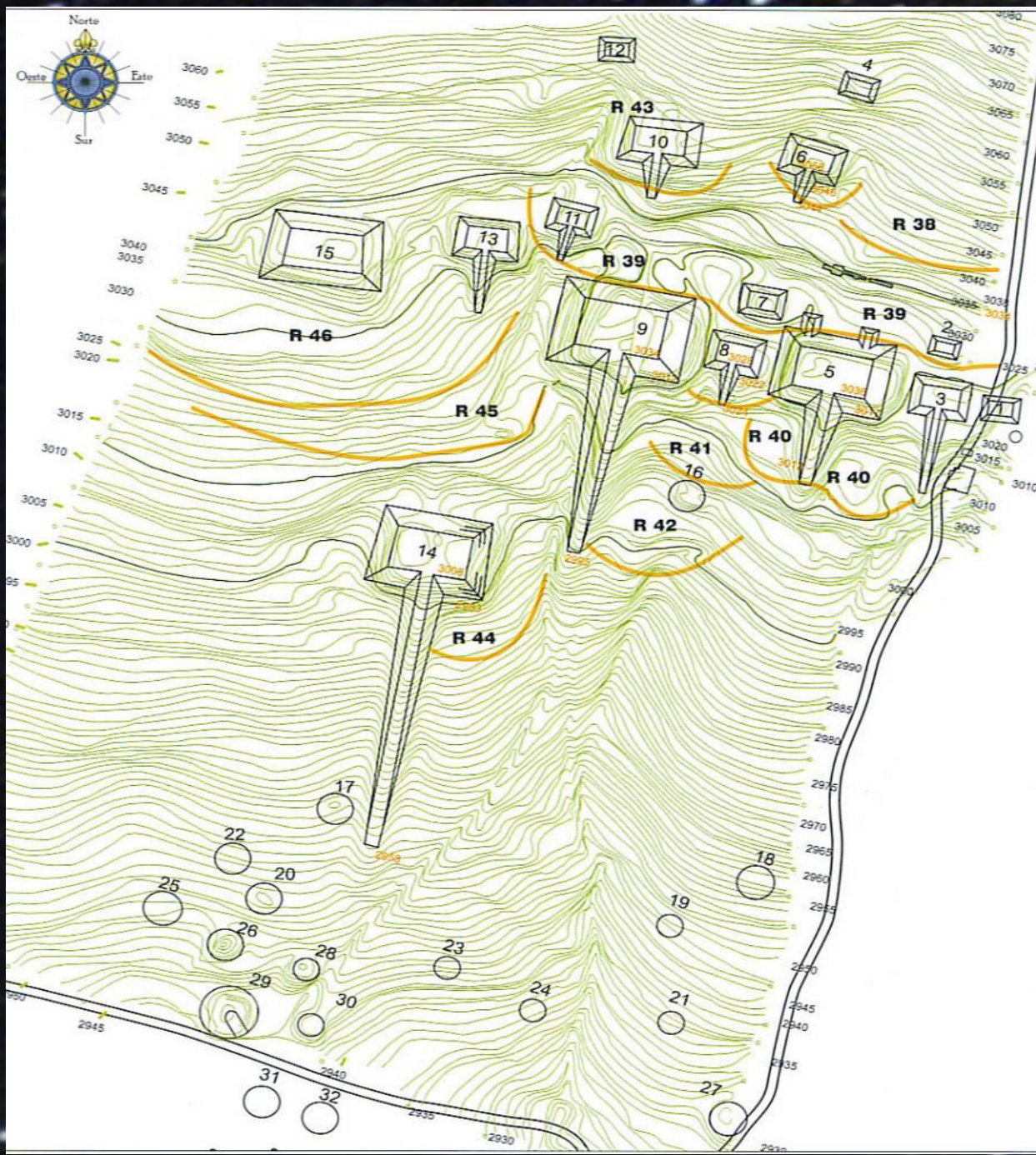
- The valley where is located Quito was populated from 900 BC.
- Refunded by Quitus and then by the Caras.
- The Quitus Caras had no army, this was a peaceful and scientific people.
- Great Astronomers

The festivals in the indigenous communities are based on the agro astronomical connotation of crops, now defined as "Pascua Chica" and "Pascua Grande".

The most important evidences of this Pre-Inca civilization are the "Cochasqui" Archaeological Park and the "Catequilla".



COCHASQUI ARCHAEOLOGICAL PARK



Time was of the essence for the Quito-Cara, who also built pyramid number 13 or the Agricultural Calendars. It is divided into solar and lunar, the first to establish the solstice and equinox, basically for celebrations; The lunar calendar, of more importance because it governed the agricultural activity, the sowings.



The materials used for the construction of these fifteen truncated pyramids were blocks of canagagua and chocoto, of which nine are provided with ramp that constitute this great archaeological park.

The pyramids or Tolas are covered with earth and grass for their preservation.

Pyramids and fountains are identified through numbers by their form or by belief.

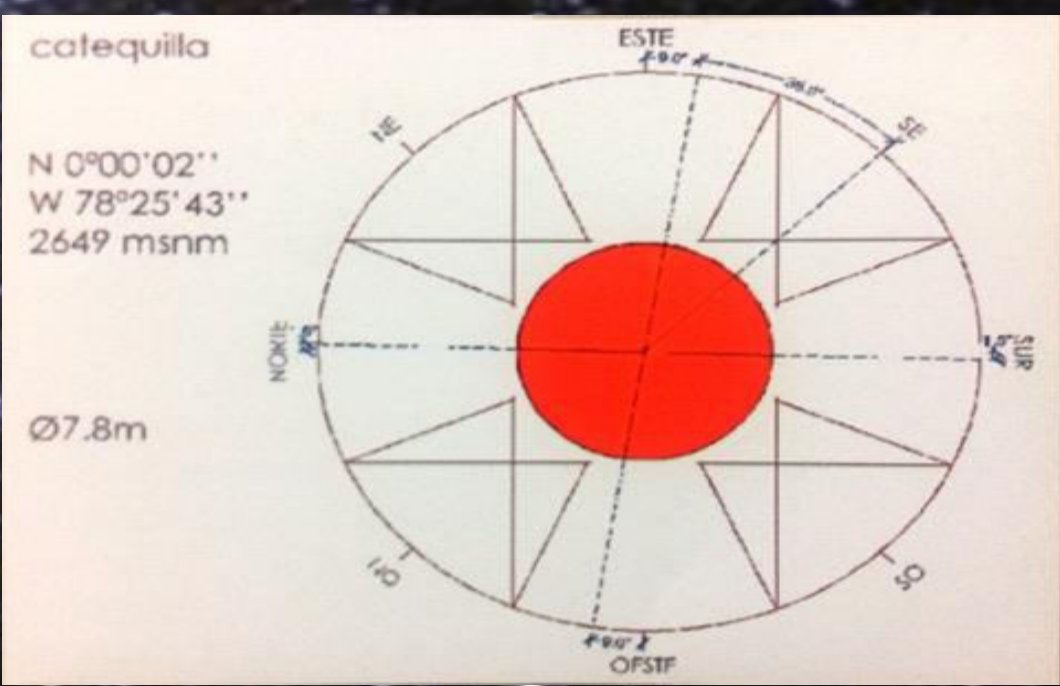
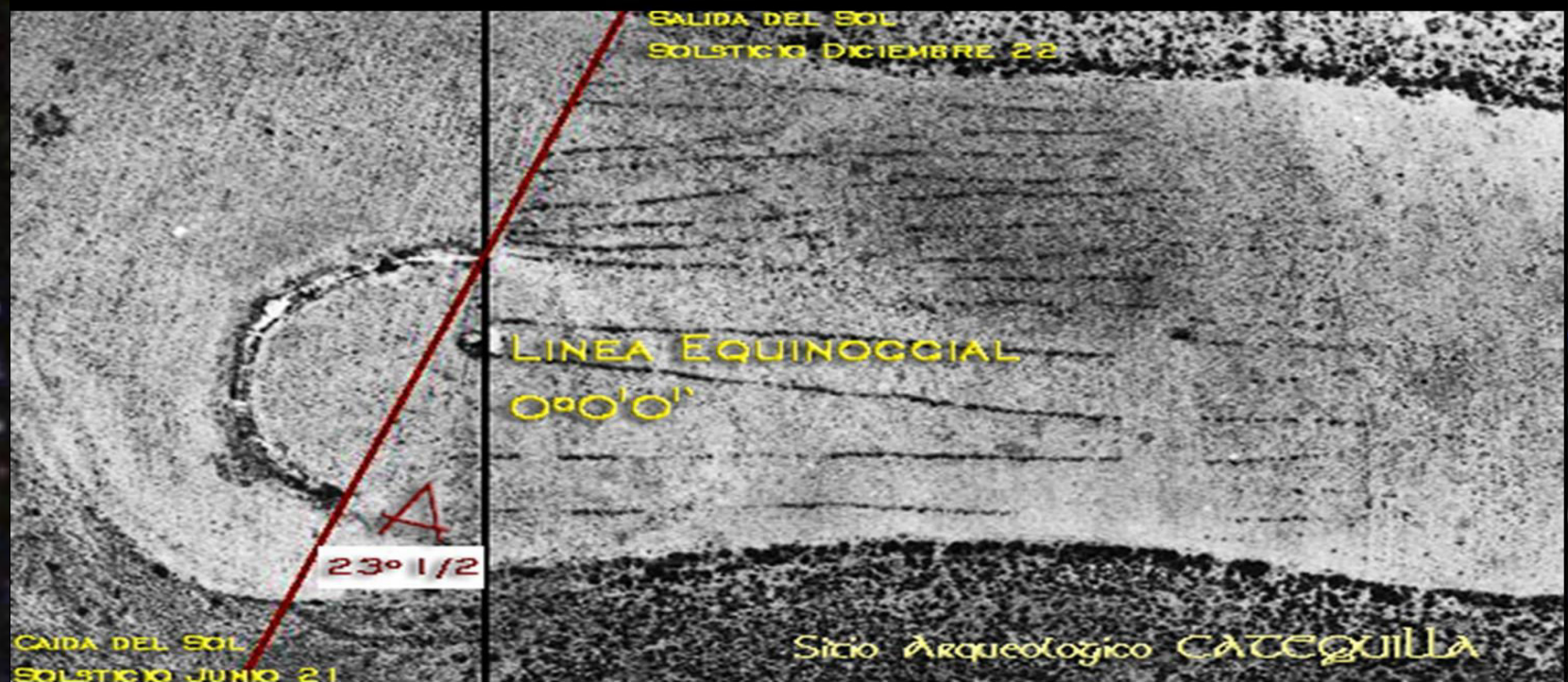
Located at 3,100 meters above sea level, among the pyramids is also number 14 or Fertility, chosen by Germans, Americans, French, Ecuadorians and other nationalities to celebrate marriages, by the belief of couples that When performing the ritual in the place, the possibility of being able to procreate grows.

CATEQUILLA



- There is a semicircular sandstone and pumice wall of about 107 m length stone, with an inclination from the eastern end to the south side, with an approximate azimuth of 293 °.
- There is also a stone platform at an angle of 330 ° whereby, it crosses the equinoctial parallel exactly through one of the ends of the arc.

Catequilla is an elevation located at 2630 meters above sea level located exactly on the equinoctial line, This gives it special characteristics, the most important being that it is in the parallel 0°, its summit enjoys a 360° visibility from where you can see 25 different ancient populations, absolutely all the archaeological sites of the region without help to optical instruments, So the observation is direct and simple. Its advantageous position in the middle of the two great mountain ranges of the Andes, allowed that the east relief was used to observe the exits and the western one for the positions of the stars. This is the only elevation in the world that has these characteristics.



In the Northwest sector of the site is a stone disc with a diameter of approximately 8 m, which has three lines of stones, two located diametrically and one located radially.

In order to verify the alignments in the solstices and equinoxes, the site was visited on different dates from 1997 to 2012, and the exits and sunsets were marked with gnomons to determine the alignments.

The pyramids of Cochasqui and the archaeological site of Pambamarca, converge in the archaeological center of Catequilla following the falls and exits of the Sun at the solstices of June and December.

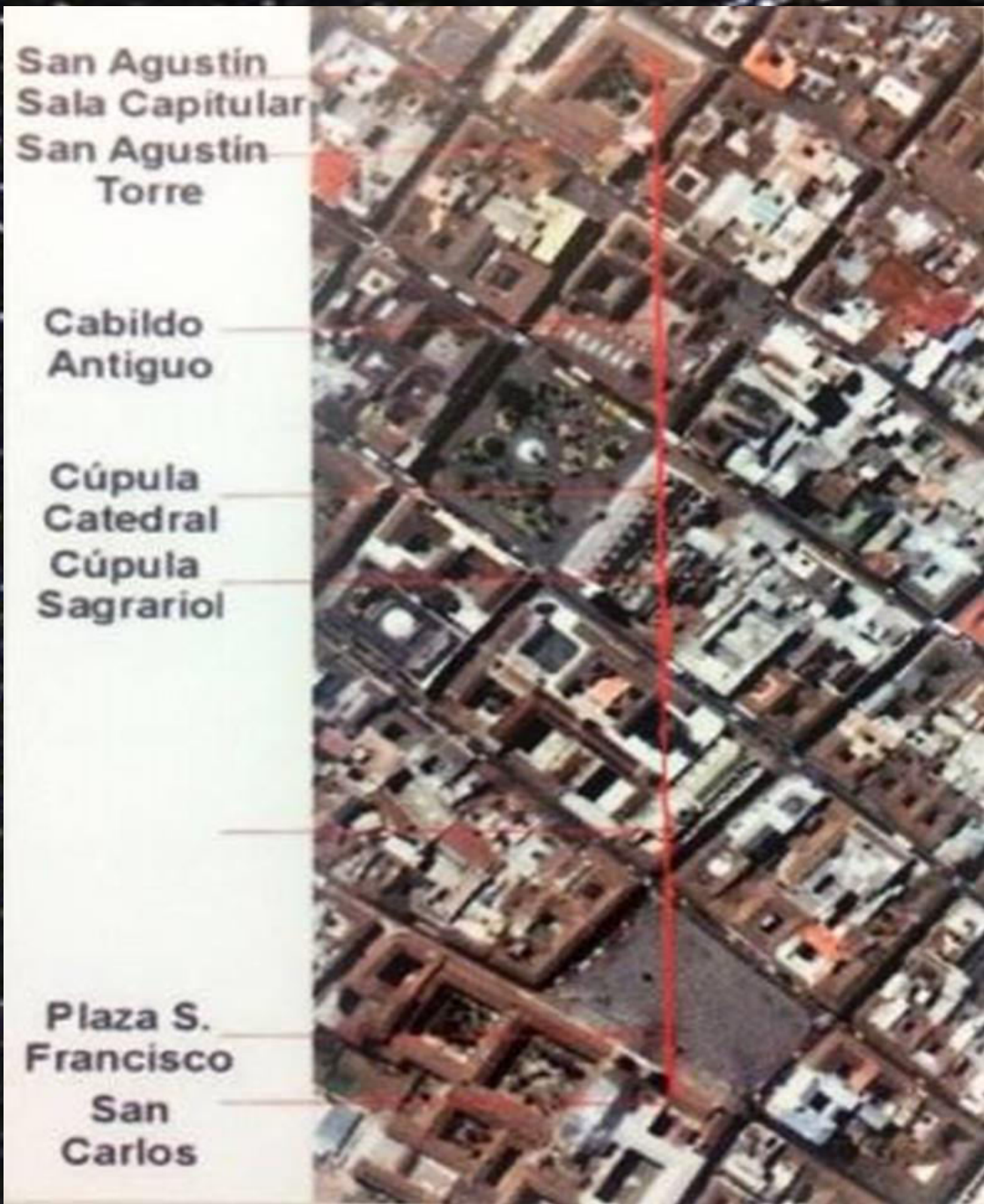


QUITO

The city of Quito, its name comes from KI = sun, TO = straight, means earth of the straight sun, its location is part of an extension of one of the alignments of the axis of the Ecliptic that projects the Catequilla.

In the historical center of Quito, where the first constructions were made, as well as the first settlements of the city from the Quitus, several temples of stellar cult were located, replaced by buildings of the new religion imposed by the Spanish conquest (churches), they positioned themselves just above the old ones for a transition of cultures.

The construction of the buildings was based on the equinoxes (right sun) when there is no shade at noon, and the sun goes exactly from east to west and projects a line over the city which passes through important buildings, going east to west



WHAT IT'S BEEN DONE ?

Talks given until August 31, 2017								
Province	Canton	Assistants	Students	Participation rate	Educational Institutions	Institutions served	Talks Given	% Attention
Pichincha	Quito	13,248	661,382	2.0%	1,602	64	64	4.0%
	Rumiñahui	628	33,863	1.9%	76	12	4	15.8%
	Cayambe	759	31,297	2.4%	133	10	5	7.5%
	Mejia	924	27,535	3.4%	86	9	6	10.5%
	Pedro Moncayo	316	10,357	3.1%	48	8	2	16.7%
	Pedro Vicente Maldonado	330	5,089	6.5%	36	7	2	19.4%
	Puerto Quito	723	7,328	9.9%	63	5	2	7.9%
	San Miguel de los Bancos	240	4,636	5.2%	33	3	2	9.1%
Total		17,168	781,487	2.2%	2077	118	87	5.7%



1 talk every 10 days aprox. Since 2015, age range 7-17 years. 10% of the schools in Quito. In 2017 4 conferences were done for teachers

The society will be able to understand the importance of the existence and conservation of these goods, collaterally, clarifying information on the historical processes that have affected the region, which will allow us to understand many factors that have intervened to date, such as the use of geographic space, land use and natural resources.

