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HUMAN HERITAGE AND CULTURAL LANDSCAPE. CONTEMPORARY DECLINATIONS VOL.8, N.1, 2021

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International Partner



HERITAGE AND CULTURAL LANDSCAPE
CONTEMPORARY DECLINATIONS

Vol. 1



EDITORIAL

HUMAN HERITAGE AND CULTURAL LANDSCAPE

OLIMPIA NIGLIO

WITH

NORIKO INOUE AND CÉSAR AUGUSTO VELANDIA SILVA

*Vision without Action is Empty. Action without Vision is Blind.
Let the Vision be a force behind Action, and Action the energy
behind Vision. This is the way to understand the
interconnectedness between human beings and Mother Earth.*

Rana P. B. Singh, 2020

TOWARDS A NEW CULTURAL ECOSYSTEM

[...] Human beings too are creatures of this world, enjoying a right to life and happiness, and endowed with unique dignity. So, we cannot fail to consider the effects on people's lives of environmental deterioration, current models of development and the throwaway culture.

[...] The human environment and the natural environment deteriorate together; we cannot adequately combat environmental degradation unless we attend to causes related to human and social degradation. In fact, the deterioration of the environment and of society affects the most vulnerable people on the planet: "Both everyday experience and scientific research show that the gravest effects of all attacks on the environment are suffered by the poorest".

[...] Finally, we need to acknowledge that different approaches and lines of thought have emerged regarding this situation and its possible solutions. At one extreme, we find those who doggedly uphold the myth of progress and tell us that ecological problems will solve themselves simply with the application of new technology and without any need for ethical considerations or deep change. At the other extreme are those who view men and women and all their interventions as no more than a threat, jeopardizing the global ecosystem, and consequently the presence of human beings on the planet should be reduced and all forms of intervention prohibited. Viable future scenarios will have to be generated between these extremes, since there is no one path to a solution. This makes a variety of proposals possible, all capable of entering into dialogue with a view to developing comprehensive solutions.

In 2015, with these words the Holy Father Francis in "Laudato si" opened an important reflection about the significance of life on the world but few people have heard the cry of the earth. [...] Men and women have constantly intervened in nature, but for a long time this meant being in tune with and respecting the possibilities offered by the things themselves. It was a matter of receiving what nature itself allowed, as if from its own hand. Now, by contrast, we are the ones to lay our hands on things, attempting to extract everything possible from them while frequently ignoring or forgetting the reality in front of us. Human beings and material objects no longer extend a friendly hand to one another; the relationship has become confrontational.

This conflict is also in the interpretation of the relationship between man and nature that we find in the different cultures and which was accentuated especially in the twentieth century, with the rapid technological development that allowed a part of humanity to reach levels of well-being also with the consequent impoverishment of other territories.

However, the different interpretations of the relationship between man and nature allow us to enhance a new "cultural ecosystem" that the capitalist vision of the world has stifled with serious humanitarian consequences. Analyzing the meaning of human heritage and the role of the cultural landscape allows us to build the

foundations for a new humanistic vision of reality and where transdisciplinarity is a fundamental key to opening our minds beyond cartesian boundaries.

To question the relationship between human heritage and the cultural landscape is to call into question certainties and to pursue doubts and insecurities, because only in this way can we hope for the construction of a better world.

In the 9th Letter (1925), *Lettere dal Lago di Como*, Romano Guardini, theologian, writes:

[...] è ancora possibile, in mezzo a tutto ciò che accade, un tipo di vita che sia completamente imperniato sulla natura dell'uomo e sull'opera dell'uomo?

Il vecchio mondo sta crollando, e intendo la parola «mondo» nella sua più ampia accezione e cioè comprendendo in essa le opere, le istituzioni, le organizzazioni e le attitudini di vita.

[...] Il problema non sarà risolto con un tornare indietro, né con un capovolgimento o con un differimento; e neppure con un semplice cambiamento o miglioramento. Si avrà la soluzione soltanto andandola a cercare molto in profondità.

Dev'essere possibile inoltrarsi nella via della presa di coscienza, sino a giungere alla mèta, per moto interiore e non per pressioni o limitazioni esteriori. E deve essere possibile, nello stesso tempo, conseguire una nuova sicurezza interiore, che non sia legata a quanto va consumato ed arso in quella presa di coscienza; un atteggiamento di rispetto che sostenga questo nuovo sapere; una ingenuità nuova nella coscienza; una capacità di credere, anche nella scempi.

Deve essere possibile lasciar cadere le illusioni e veder tracciati rigorosamente i limiti della nostra esistenza, ma acquisire, nel contempo, una nuova infinità avente la sua origine nello spirito¹.

To this inner research, we have dedicated the topic of this monographic issue of EdA *Esempi di Architettura* published in two volumes and which has allowed us to compare ideas and proposals of researchers from different cultures and geographical origins: from America, Europe, and Asia.

This dialogue was also supported by co-editors Noriko Inoue, from Japan, and César Augusto Velandia Silva, from Colombia whose opposites harmoniously met in a unified vision of the relationship between man and nature.

We wish a great reading to rediscover our fundamental inner values to build a better world.

RESONATING CULTURAL LANDSCAPE

Let me first clarify that what I am writing here is a personal note rather than a scholarly comment, and thus may be unworthy of a contribution from an academic journal editor. Nonetheless, since I was encouraged to write something about a relationship between people and landscapes, I'd like to think back on the landscapes that have been inside me.

My involvement in cultural landscapes in Italy starts with my visit to Ferrara. To the east of that jewel-like city extends wetland scenery, which I later came to know had been depicted in movies by Michelangelo Antonioni.

At that time, I went to Italy to learn its landscape policy and intended to choose case studies in beautiful rural areas in Toscana as my research topic. Meanwhile, the marshland I saw in Ferrara reminded me of a documentary film entitled "The Flow of a River, the Sound of a Violin (1981)"², which I once saw in Japan. Its main theme is the violin, and the story unfolds against the backdrop of the basin of the Po River. The relationship between the river and people's lives was also depicted in this film. Although I cannot remember any exact scenes in the film, the image of the Po River valley is still vivid in my memory. That image and the memory of watching the Po River in the documentary film also made me recall my childhood days, when I would spend time with my father watching many Italian movies. Those movies, which were considered by my father's generation to be works by master directors of neorealism, greatly impressed me. I was especially enchanted with the landscapes (images) and the conversations, which sounded to me just like tones without any meaning. I think that the landscape of the Po River, combined with the image of Italy in movies, has remained inside me as a sort of sediment, serving as the seed of my eventual relationship with Italy. Indeed, after that, I began frequently coming and going between Italy and Japan and was sometimes surprised to find myself in the middle of the marsh landscapes. I spent many hours in Ferrara, waiting at a railroad station for a train, which would suddenly appear out of the fog; looking vacantly at the field of withered reeds; and dining at one of small restaurants sporadically located in the marsh area. Before I knew it, the beautiful views of Toscana had been forgotten, and - I don't know how to say it - I came to think to focus my research on the rich and varied, not necessarily beautiful, views of the marshland;

¹ Guardini R. (1993), *Lettere dal Lago di Como. La tecnica e l'uomo*, Giulietta Basso (a cura di), Morcelliana, Brescia, pp. 92-100.

² https://www2.nhk.or.jp/archives/tv60bin/detail/index.cgi?das_id=D0009010265_00000

comprised of people, water, rows of small houses, farmland and tree-lined streets. Since then, I have been virtually captivated by the landscapes of eastern Emilia-Romagna.

As evidenced in these personal experiences of mine, cultural landscapes are not something to be evaluated based on aesthetic forms or historical and artistic values. A highly personal experience can give a special meaning to an ordinary scene. When requested to write something on relationships between people and landscapes, what came to my mind were these personal experiences.

A landscape will slowly change with the constant flow of time. However, if it were forced to change or changed abruptly, people's sensitivity would be seriously damaged by such changes. Since cultural landscapes surround us as a sensitive environment, it is almost impossible to separate them from us. Indeed, cultural landscapes are part of ourselves and resonate with us.

Noriko Inoue

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TOWARDS AN INTERCULTURAL HUMAN HERITAGE

The cultural heritage of the twenty-first century must be focused on the thought of "human heritage", this means that to understand, interpret, and investigate it, a constant task of epistemological construction is required. This refers to the understanding of humanization in times of the need to claim a greater recognition for the fundamental, such as human rights for the appropriation of one's own heritage; the reaffirmation of the individual and group self-determination of those communities in all their conditions to promote an intercultural human heritage and therefore of their community and the landscape.

Human heritage studies should then promote approaches that focus on people's connections to heritage and places; intercultural dialogue and understanding; sustainability and well-being in addressing local, national, and international heritage policies and practices.

The current challenges in the recovery of heritage are to create synergies between the conservation and management of cultural heritage in a sustainable manner, in relation to the diverse cultural, environmental, and socioeconomic concerns of individuals and communities, through the creation of partnerships with relevant sectors, such as health and social services, cultural and creative industries, nature and biodiversity conservation, sustainable tourism, urban and territorial planning and development, responsible consumption, and the circular green economy.

New challenges and perspectives are pending to be developed in front of the human heritage and what we researchers have to say about the social innovation of heritage, or heritage in front of the post-development era, in front of sustainable cultural development and bio culture. In an informational and pandemic era, the social representations of heritage and its forms of appropriation must be carefully researched so that we can work with communities.

Once again, in the depths of the nature-culture links, we find a whole range of symbolic relationships that in their inner processes will reveal new problems that require very precise measures, in accordance with the impact of the pandemic, the crisis of the capitalist model of accumulation, the culture of consumption and the globalization of knowledge. Finding new answers to survival and of symbolic representation of the intercultural landscapes.

Let's remember that interculturality alludes to the conflict that articulates communities in their cosmological-symbolic relationship with nature. The coexistence of social groups is determined by the complexities, within them the difficulties, needs, and links with the contemporary environment. Also, with the added problems of the aspirations and influences of globalization, migration, organized crime, social networks, and pandemics.

Finally, culture overcomes these problems. In the end, to understand the manifestations of culture, to put them in value, and to achieve a greater knowledge and appropriation out of the ordinary, is a work of the researcher of the intercultural human heritage.

César Augusto Velandia Silva

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THE END OF XOCHICALCO, A RITUAL DESTRUCTION?

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ABSTRACT

Very numerous and different hypotheses have been proposed to explain the abandon of cities in ancient Mexico: natural catastrophes, exhaustion of the soils, drought, end of goods, famines, intestine revolts, attacks by foreign invaders, religious changes, ideological fights, and so on. Another one was presented by René Millon for the fall of Teotihuacan, who claimed that Teotihuacan was destroyed by the leaders and elites of the city themselves, but does not present any clear or precise reasons for such a strange and dramatic decision only proposing socio-economic or ideological changes (Millon, 1988). Maybe the destruction was done in order to appease the anger of the gods and beg for their clemency when would come the unavoidable end of their world. I think such a possibility can be considered seriously for the destructions of Teotihuacan and Xochicalco. The dates of the New Fire Ceremonies and the general cosmology of pre-Hispanic Mexico point at the year 623 AD as the end of a "Sun" (a Mesoamerican era), the fourth and last Sun of their cosmology (Lebeuf, 2003). We find that date as the most important anchor of the Venus counts in the Dresden Codex (1-Ahau 18 Kayab, 9.9.9.16.0). This event would have required an exceptional sacrifice of the gods and for the gods in Teotihuacan and the ritual destruction and profanation of its religious centre at the end of their fourth Sun. At the same time another sacrifice would have taken place in Xochicalco for the founding of a new ideal city, another Tollan constructed to be destroyed 208 years later, in the year 830 A.D. (Lebeuf, 2003: 223-240, 230, 239 note 655) as an offering to the gods when would come the end of the great cycle of 5200 years of their own cosmology.

Keywords: Mexico, Teotihuacan, Xochicalco, Cosmology.

"Most amusing still are the assertions of Augustin Le Plongeon who saw in the iconography of the pyramid of the Plumed Serpent a revelation about the history and destruction of the lost continent of Atlantis"

Kenneth Hirth, 2000:39, on Le Plongeon, 1913.

THE TEMPLE OF THE FEATHERED SERPENT IN XOCHICALCO

The temple of the feathered serpent is situated by 18°48'16" North and 99°17'47" West and it is the most important monument of the site of Xochicalco in the state of Morelos, Mexico. The western façade bears a very important and puzzling series of calendric inscriptions. The other three sides North, East and South are decorated each one with two monumental representations of the feathered serpent and between its undulations are carved alternatively the date 9-Ehecatl and a seated human figure who wears a very impressive headdress of large feathers.

This motive of serpent, human figure and calendar date is repeated six times. All of this indicates that this monument is dedicated to the god Quetzalcoatl 9-Ehecatl of ancient Mexico represented in three different forms: his celestial form as a feathered serpent, his glyphic calendar name of 9-Ehecatl and his human form of the earthly ideal king of Tollan (Roman Piña Chan, 1989). In the role of the king, Topiltzin is the sacrificial ixiptla of the god Quetzalcoatl. We also find other iconographic references to that divine figure, for example the sea conchs associated to the sound of the wind (Ehecatl), and the transversally cut sea snails or conchs in the shape of a five branch star which are the specific attribute of Quetzalcoatl as Venus the morning star. Above the glyph 9-Ehecatl is the representation of a small temple, both being framed by flames.



Fig.1. The motive of feathered serpent, seated lord and the date 9-Ehecatl repeated six times on the talud of the temple in Xochicalco.



Fig.2. (left), The date 9-Ehecatl.



Fig.3. (centre), Detail of the temple in flames, Xochicalco.



Fig.4. (right), A small temple stone sculpture of the Mezcala culture (for comparison of the elementary representation of a temple).

I did not find in the literature on Xochicalco that this element was ever noticed¹ but this detail is of course very meaningful for my hypothesis, how could they know at the time of construction that the temple would be burned in the end if not because it had been perfectly planned already from the beginning? A representation of the fire is also visible on the western corner of the southern upper part of the temple. Over the flames of that panel is the representation of an eclipse, a disk inside a huge maw, and in front two human figures one behind the other who might well be the sacrificial victim and the sacrificial priest, we notice the bound legs of the figure in front of the other, the figure behind seems to wear a belt for the ball game, he might then be the winner of the game presenting the defeated player for sacrifice. The relation of the ball game with ends and recreation of world eras is well documented.

The temple of the Feathered Serpent is evidently very tightly related to the ceremonies of the New Fire and it is highly possible that it was precisely in Xochicalco that took place the very important and memorable ceremony which would become the model of the New Fire Ceremony and of sacrifice in general for all the post-classic horizon. Xochicalco is very strongly related to the New Fire and another representation of it is accompanied by the date 2-Coatl year 1-Tochtli on a boulder of a very different style.

¹ The only mention I found was on an internet page by Marco M. Vigato The pyramid of Xochicalco: A monument to the end of times, *The other most recurring imagery on the lower band is a curious set of glyphs, appearing a total of 6 times within the coils of the snake. This set of glyphs contains the calendric date "9 eye of reptile", also associated with Quetzalcoatl, surmounted by what appears to be a temple from which emanate large tongues of fire. Interestingly, a glyph in the shape of a volute, emanating from the serpent's tail, appears to be hitting the temple as a giant wave. Similar volutes are also to be seen underneath the temple, as if the intent of the artist was to represent the construction sinking underneath the waves.* Where the temple in fire is noticed but then the author interprets the flames around and over the 9-Ehecatl glyphs and the feather of the Serpent as waves, recalling of the sinking of Atlantis claimed by Le Plongeon which hypothesis he is commenting.



Fig.5. Lord of Xochicalco, temple of the feathered serpent.

Fig. 6. Victim in front of the fire under an eclipse.



Fig. 7. Representation of the New Fire drilling and the dates 2-Coatl, year 1-Tochtli on an erratic stone from Xochicalco.

The year 1-Tochtli was the year of the New Fire Ceremony on the post classic Altiplano before the Aztec reform putting this ceremony in the following year 2-Acatl (Caso, 1962). It is possible that the date 2-Coatl of the year.1-Tochtli, marks the beginning of the third Sun in Xochicalco which corresponds to the start of the second Sun of the Maya and altiplano post classic traditions. On the day 2-Coatl Year 1-Tochtli, 17.01.1872 AC, (JD 1037708), the sun was at two degrees from the node and Venus 31 days after. We will explain further down the specificity of such a disposition. Because of the very different style I would rather suspect that this inscription was carved in Xochicalco at the occasion of a ceremony held there by some newcomers long time after the abandon, in the same way as the Aztecs continued to go for pilgrimage and sacrifices to Teotihuacan and other venerable ruins of the glorious past, including Xochicalco. Why would they celebrate this date? Maybe to start their own system which would give them another more Sun in the future. There is another possibility. The day 2-Coatl Year 1-Tochtli fell on the winter solstice of 1246 AD (1246.12.22, gregorian proleptic, JD 2176508), a date corresponding to the Great New Fire Ceremony (Huehuetiliztli) every 104 years, four steps after the important year 830 (830; 934; 1038; 1142; 1246). Then the sun was at -18 days from the node, which means it was entering an eclipse zone, it might have marked the start or end of some important period for the newcomers which were to become the Aztecs and who were very ambitious from the beginning, maybe their first New Fire Ceremony after their coming on the central Altiplano. Elsona and Smith write:

[...] The iconographic symbol of the New Fire Ceremony was a fire drill with flames. The earliest clear-cut example of this occurs on a stone relief from Xochicalco, Morelos, in which the symbol is accompanied by calendrical glyphs 1 Rabbit (a year designation) and 2 Snake (a probable day name). This stone is carved in the Xochicalco sculptural style of a.d. 650-900 (Hirth 2000), and César Sáenz (1967) considers it a commemoration of the first New Fire Ceremony. Emily Umberger (1987a, 1996) has shown that Mexica artists deliberately imitated the sculptural styles of Xochicalco, Tula, and Teotihuacan. She notes that in Tenochtitlan, "another sculpture with a date surrounded by a Xochicalco style frame was carved in connection with the New Fire Ceremony of 1507, and the archaizing style recalls the site where the Tenochca considered that their calendar was initiated and the first new fire was lighted" (Umberger 1996: 94; Elsona, Smith, 2001).

In case of the first possibility in the year 1872 BC, it would be in accord with the general traditions of the Maya, Xochicalco and other traditional systems for which the reference was to the nodal passages of the sun and Venus inferior conjunction, but I only keep in mind this possibility with great caution. The second one for the year 1246 AD, would fall in accord with the later Aztec system which retained only the entrance and exits of certain days of the Metzpoahualli in and out of eclipse zones. The reference to the year 1-Tochtli would indicate it was carved before the Aztec reform on 2-Acatl. It would mark a first foundation ceremony by the future Aztecs who appeared in history about the 12th or 13th century.

THE OBSESSION WITH TIME

We know well that all Mesoamerican civilisations were fascinated with time and created very sophisticated calendar systems, half of their inscriptions are of chronological order. The cycles of time formed the basic frame of their mythology, ritual and history. Religious and cultural activities were organized in accord with the structure of their sacred calendar, up to the point that history itself was forced into the frame of the calendar and even rewritten to fit the general chronological and cosmological models. Individuals were named by the day of their birth which ideally should also be the day of their death. Let us only recall the most basic time wheels they used. The year called Xihuitl in Nahuatl and Haab among the Maya was of 365 days and was composed of 18 months of twenty days to which were added five more days called Nemontemi/Uayeb. Another year count was the Maya Tun of 360 days. Both were conventional expressions of the exact value of 365,2422 days for the solar tropical year. They certainly knew this exact value but preferred to use the conventional counts in entire numbers. They counted in the same formal way 584 days for the revolution of Venus but knew it was in reality of 583,92 days.² A third cycle which has been puzzling for most investigator was the Maya Tzolkin or Tonalpoahualli in Nahuatl which counted 260 days. Various proposals were presented and also that it had absolutely no relation with any natural cycle. But in fact the solution was given already in 1930 by Hans Ludendorff director of the astronomical observatory at Potsdam (Ludendorff, 1930). According to Ludendorff, the Tzolkin was created to represent the cycle of the nodes of Moon orbit because $2 \times 260 = 520$ and $520/3$ gives 173,333 days, a length very close to the exact value of 173,31 days which is the time for the sun to pass from one node of moon orbit to the other. For ancient astronomers the localization of the nodes of moon orbit was of prime importance because this knowledge is the basic condition needed for the prediction of eclipses. The knowledge of the cycles of the nodes of moon orbit was also the most difficult to achieve because the nodes are invisible points at the crossroad of two invisible circles, the orbits of the sun and of the moon, that is to say the abstraction of two abstractions, and moreover, all of them moving in space, a very difficult thing to catch and fix. As we will see later, Venus helped them to solve the problem.

The congruency of the Tzolkin with the nodes of Moon orbit leads to another very important cycle of 1 872 000 days called the Long Count. The Long Count is related both to the Tun and to the Tzolkin because it makes 5200 Tuns of 360 days and 7200 Tzolkins of 260 days. Hans Ludendorff also explained the length of that period. He claimed that because of the small difference between the canonical 173,33 days (one third of 520) and the real value of 173,31 days, the moments of passages of the Sun on the Nodes of Moon orbit drift in the tzolkin at the rate of one day every 20 tuns (Ludendorff's calculation), this means that to return to the same day in the Tzolkin, the Sun-Node conjunctions has to regress 260 times 20 Tuns, that is 5200 Tuns. According to Ludendorff, the Long Count is the module of correction at long term for the short-term eclipse predictor constituted by the Tzolkin. The Tzolkin and the Long Count constitute together a small computer for eclipses (Ludendorff, 1930).

MILLENARIANISM

Mesoamerican mathematics, astronomy and calendars were based on the search for congruencies between cycles expressed in entire numbers. The congruencies of astronomical cycles (conventional or real) were the occasions of celebrations. The congruency between the cycles of 365 and 260 days produced the so-called Xihmolpilli of 18980 days or "Binding of the years" and was celebrated every 52 years. Twice this length, that is every 104 years returned the Huehuētiliztli when the cycles of 365 and 260 days were also congruent with the Venus cycle of 584 days [$(104 \times 365) = (146 \times 260) = (65 \times 584)$]. We know that Mesoamerican worldview was strongly millenarian. People were waiting for the end of cycles in anguish. The end of every score or month of twenty days was celebrated, and sacrifices were offered. In the Maya tradition, the ends of Tuns, Katuns, Baktuns³ were celebrated and stelas erected to mark these milestones of time. At every end of Xihuitl/Haab years the five additional days (Nemontemi/Uayeb) were spent in the dark, without fire or activities, hidden in fear, deprivations and sacrifices and the first day after these unfortunate days was celebrated with joy and happiness for the return to normality. The same last five days at the end of their small centuries of 52 years (Xihmolpilli) or 104 years (Huehuētiliztli) were especially spent with fear in hope that the new fire would be kindled again by the priests for a new century to start, these were times of Sacrifices, purification and renewal of time. At that occasions various objects of cult or of practical life such as tools and kitchenware, idols, domestic representations

² Also using their formal values: $5200 \times 365 = 1898000$; $1898000 - 260 = 1897740$; $1897740 / 2350 = 583,92$.

³ The Tun is composed of 360 days; the Katun is of 20 Tun and the Baktun is of 20 Katun or 400 „years” of 360 days. 13 Baktun compose the Long Count.

of divinities would be destroyed and renewed. The New Fire was lit on the chest of a sacrificial victim and was distributed to all temples and communities of the surrounding land for the new “century” to start. The end of calendar cycles and the key points of the cosmic order were moments of danger, of destructions and renewals. In front of the imminent dangers coming, Mesoamerican societies were systematically offering sacrifices to their gods to appease their wrath, begging for their clemency and ask them to save the world from destruction in those crucial and dangerous moments when the cycles of time and cosmic eras were shifting. Every end of cycle was accompanied by sacrifices and ritual destructions which varied according to the nature and importance of those cycles. Among the most important sacrifices were works of art, precious stones, gold, human beings and the dearest ones, children. Such events occurred at all completions of time cycles. We know well according to the sources that the end of the eras called “Suns” of Mesoamerican cosmology were accompanied by periodical destructions and re-creations by the gods. This is well illustrated by the destructions of previous worlds and humanities. Among other texts the *Leyenda de los Soles* recalls these periodic quasi total destructions of the world and successive humanities. Human sacrifices for the renovation of the world is well illustrated by the oblation of Nanahuatzin in Teotihuacan. Destructions and reconstructions of such impressive monuments as the Templo Mayor of Tenochtitlan could also take place for the inauguration of a new Tlatoani, marking the start of a new reign, a new epoch. According to the so-called Toltec traditions, the death and enthronisations were spaced at 52 years distance coinciding with the Xiuhmolpilli. Many other sources confirm those cyclic destructions and restauration of the successive worlds by the gods. The end of eras called “Suns” were the occasion of sacrifices of major importance, accompanied by massive destructions.⁴ If the end of the “Suns” of 1248 or 1040 years (Lebeuf, 2003; 2009a) were the occasion of important destructions and sacrifices, the end of the large cycle of the Long Count of 5200 years, a periodic “end of the world” should have been the occasion of really gigantic sacrifices. That is precisely what I suppose happened with the sudden destructions of Teotihuacan and Xochicalco in the years 623 and 830 AD respectively.

FEAR OF ECLIPSES

Eclipses were associated with their different “Ends of the World”.

[...] The fatality of an eclipse, according to the Maya Cosmovision, is strong and clear, as an eclipse may also be named alternatively using the terms *xu'tan* or *xulik'tan*, which means “the end of the world”. The recurrent destructions of the world’s eras are said to have begun with an eclipse. For them, eclipses foretell the holocaust” (Ruiz Gallut 1992: 216; Closs 1989: 393). “Lacandon believe that a total eclipse precedes the end of the world, when this occurs the heavenly jaguar will land on earth in darkness and will devour everybody” (Closs, 1989: 393b). “The Lacandon fear that the world will end during an eclipse. In such occasions, men sing to their god *Ac Yanto*, supplicating him to ask *Hachacyum* to retain the calamity before it leads to the final end of the world. Almost everywhere in Mesoamerica the custom is to make as much noise as possible, beat the drums and dogs to make them bark and howl, shooting guns, everything possible is done to stop the eclipse⁵ that is to scare away the monster attacking the star. On July 16th of 1935, my godfather *Jacinto Cunil*, wrote to me in his uncertain Spanish about what happened in the Maya village of *Socotz*, in Belize: “In the night between the 15th and the 16th of this month was an eclipse of the moon. All the people were scared, they said the world was going to end on that night. They made a lot of noise beating on cans and boxes and ringing the bells. There were prayers and processions at one o’clock that night. All were awake as they believed the moment of the Last Judgement had come. The *tzeltales* of *Oxchuc* consider as well that the eclipses of the sun are announcing that God will send his punishment” (Thompson, 1988: 183; Baer y Baer 1952: 23; Villa Rojas 1946: 569).

We could gather a very long list of such beliefs in Mesoamerica and in the whole world indeed.

COSMOLOGY

In previous studies (Lebeuf, 2003; 2009a) I claimed that the cosmology of Xochicalco was structurally the same as the system which can be reconstructed with the help of the Venus table in the Dresden Codex but with one “Sun” of 1247 years of anticipation. The cosmology of Xochicalco would not have started in 3119 BC as in the Maya tradition but in the year 4366 BC and finished in the year 830 AD. It consisted of four “Suns” or eras of 780 cycles of Venus each which sums up to 3120 cycles of Venus or 48 ceremonies of the New Fire (*Huehuetilztl* of 104 years or 65 Venus cycles), but as the complete cosmological cycle counted 50 of those *Huehuetilztl* and New Fire ceremonies, two more ceremonies had to be added to complete the 5200 years of the Long Count. That cosmological system would count four Suns of twelve sequences starting respectively in 4366 BC, 3119 BC, 1872 BC, 625 BC. The fourth and last Sun would finish in the year 623 AD with a passage of the Sun on a day 9-Ehecatl, followed by an inferior conjunction of Venus 32 days later, on a day 1-Acatl. To complete the Long cycle of 5200 years (or 3250 Venus Cycles), would be needed another two *Huehuetilztl* of 104 years, that is 208 years leading

⁴ II See the *Leyenda de los Soles*, in *Codice Chimalpopoca*, 1845.

⁵ That is a universal custom found among others in Peru, Russia, India, China, etcetera,

to the year 830 A.D with a nodal passage of the sun on a day 11-Ozomatli followed by a final inferior conjunction of Venus on a day 4-Calli (21.12.830 AD, JD 2024566).

To resume, let us consider that for the tradition held in Xochicalco, the cosmological system was of 50 sequences of 104 years, making together 5200 years (or more precisely 3250 cycles of Venus). It started on a day 11-Ozomatli in the year 4366 BC with the passage of the sun on the node of moon orbit and finished 5200 years later also on a day 11-Ozomtli of the year 830 AD coinciding again with the nodal passage of the Sun, both of these dates preceding an inferior conjunction of Venus 32 days later on a day 4-Calli.⁶

THE NEW FIRE CEREMONY

As already mentioned, the New Fire Ceremonies were like milestones marking time every 52 years (Xiuhmolpilli) and every 104 years (Hehuetiliztli). We know a few of the dates of those ceremonies from historical, mythological and epigraphic inscriptions and can easily reconstruct the others at multiples of 104 years distances. The ceremonies of the New Fire known as Huehuetiliztli were the most important ones as their name indicates, which means the ancient ones or the venerable ones, "una antigüedad" they marked every 104 years the congruency of the Tzolkin of 260 days, the Haab of 365 days and Venus cycle of 584 days (146 x 260 = 104 x 365 = 65 x 584). In fact, what was decisive in those moments was the congruency of Venus and the nodes of moon orbit, because every 104 years the following figure returns very regularly in the sky. We must now abandon the conventional values for the exact natural ones.

- *= Venus conjunctions with the sun (inferior or superior).
- N. = conjunction of the sun and the nodes of moon orbit
- d = days

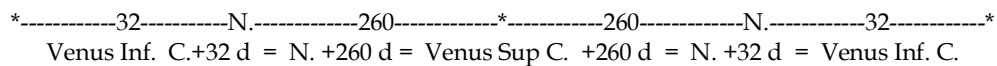


Fig.8.

Every 104 years (more precisely, every 65 natural cycles of Venus), Venus is congruent with the passage of the sun alternatively on one or the other of the nodes of moon orbit forming this very regular symmetric pattern. It is clear that the knowledge of this specific arrangement offers the possibility of knowing precisely the position of the Nodes of Moon orbit by the observation of the inferior conjunctions of Venus every 104 years when was celebrated the New Fire Ceremony. This congruency which offers a practical use of Venus for eclipse previsions explains well the reason why, very curiously, in Mesoamerica Venus was considered the factor of eclipses (Closs, 1989). Here Venus appears as the visible aspect of the invisible node of moon orbit. This very singular regular and symmetrical formation returns in the sky very precisely on the dates known for the celebrations of the New Fire Ceremonies every 104 years but with one month of anticipation in the solar tropical year. The following dates indicate the relevant inferior conjunction of Venus every 104 years (65 true Venus cycles). Due to this regression of those dates by 30 degrees every 65 Venus cycles, we observe that after twelve of these steps the conjunction returns to its initial date in the tropical year. Here are the dates of 12 successive Venus inferior conjunctions every 104 years.

623.	02.	20
727.	01.	21
830.	12.	21
934.	11.	21
1038.	10.	22
1142.	09.	22
1246.	08.	21
1350.	07.	22
1454.	06.	22
1558.	05.	23
1662.	04.	21
1766.	03.	21
1870.	02.	20

Table 1.

⁶ On table 2 are given the numbers indicating the small difference between the model and the exact values.

It means that the regression of the congruency Sun-Nodes-Venus reaches a full solar tropical year after twelve New Fire Ceremonies ($12 \times 65^* = 780^*$ or 1247 tropical years). Such a complete revolution of this figure around the solar year corresponded to one period of creation, one era or one Sun.⁷

Here under are the dates of inferior conjunctions of Venus at 1247 years distance (780 Venus cycles).

16 II 4366 BC	Venus 0	N.34
16 II 3119 BC	Venus 0	N.33
17 II 1872 BC	Venus 0	N.33
19 II 625 BC	Venus 0	N.33
20 II 623 AD	Venus 0	N.32

Table 2.

We can see the remarkable stability of these conjunctions. For 5000 years the shift of Venus in the tropical year is only of four days and the discrepancy between Venus and the node of only two days (Lebeuf 2003; 2008).

We know that before the Aztec reform Mesoamerican cosmological systems counted four "Suns", which means 4×12 Huehuētiliztli, summing up to 48 segments of 104 years or 4992 years. Then 208 years or two New Fire Ceremonies more were needed to complete the great cycle of 5200 years. We can see in the following figure that the models proposed for the Maya and Xochicalco are structurally identical but separated by one epoch or "Sun" of 780 true Venus cycles or 1247 tropical years (Lebeuf, 2003; 2009 a; 2009b).

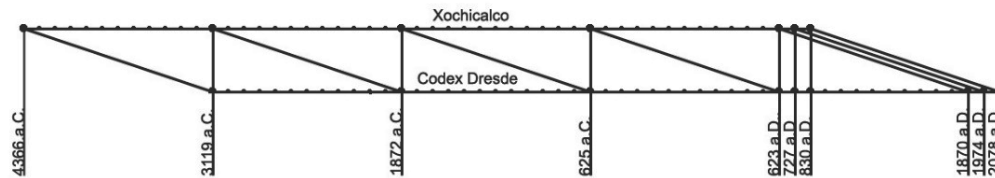


Fig.9. Two different arrangements of the general cosmology for Xochicalco and the Maya

If the figure proposed here of a perfectly symmetrical organization of Venus phases and the nodal passage of the Sun was really the condition which decided the moments of the New Fire Ceremonies, it means that before the Aztec reform this ceremony was synchronized all over Mesoamerica and all through its history, regardless of the changes of year names in the different systems of year bearers, and of the precise event chosen inside the figure. In the Dresden Codex, it was the 1-Ahau 18 Kayab for the conventional heliacal rise of Venus, in Xochicalco the real conjunctions of the sun with the lunar node and Venus. In Diego de Landa on the first conjunction of the sun on the node of lunar orbit inside the 584 days figure mentioned here (17.11.1556, JD 2289698), it means 32 days after the first Venus conjunction instead of 32 days before the second conjunction (Lebeuf, 2003:218; Spinden 1928:57; Landa, 1938:196-198). But always inside this figure and in the same years at 104 years distances. The Aztecs displaced the ceremony one year later and only retained the entrances and exits of chosen days in and out of the eclipse zones in the Tonalpohualli, and that is the reason why I dared propose an hypothetical date of 1246.12.22 for the problematic 2-Coatl Year 1-Tochtli in Xochicalco⁸.

THE DATE 9-EHECATL

The site of Xochicalco is characterized by the insistent presence of the day name 9-Eye of Reptile which, according to Alfonso Caso corresponds to the day 9-Wind (9-Ehecatl). This date of 9-Ehecatl is together with the date 1-Acatl one of the two most common calendric names of Quetzalcoatl. This day sign is repeated six times between the undulations of the feathered serpent which confirms the identification of the temple, its dedication to Quetzalcoatl 9-Ehecatl. Three more instances of that same date 9-Ehecatl are found, one among the calendar inscriptions on the right side of the façade of the feathered serpent temple, another on a megalith accompanied on the other side of that stone slab by the year bearer date 6-Acatl and four crossed circles, and the third on the *stela de los dos glifos*.

⁷ We also note that good fortune wanted these conjunctions to fall as well with the colures of the year, on solstices and equinoxes.

⁸ Lebeuf, 2009. This inscription could not have been carved by the Aztecs after they had introduced their reform because it would have been then related to the year 2-Acatl and not 1-Tochtli. This means that the reference to the entrances and exits of Metzphoualli days in and out of eclipses zone for the new Fire Ceremony could have been borrowed by the Aztecs from another earlier tradition.



Fig.10. Day 9-Ehecatl repeated six times on the talud of the temple in Xochicalco.

Fig.11. Day 9-Ehecatl carrying the sky, right side of Facade of the Feathered Serpent temple Xochicalco.

Fig.12. 9-Ehecatl on the Monolith with the year 6-Acatl and four crossed circles on opposite side, Xochicalco.

Fig.13. Stela de los dos glifos.

Let us now remember the general figure of the nodes and Venus returning every 104 years in the documented years of the New Fire Ceremony. In the year 623, the Sun passed on the node of Moon orbit on a day 9-Ehecatl (20.01.623, JD 1948625). And the subsequent conjunction of Venus following this 9-Ehecatl date in 623 fell on a day 1-Acatl (20.02.623, JD 1948656). This coincidence in that crucial year of the New Fire ceremony is evidently of great interest as these two dates are the two most common calendar names of Quetzalcoatl.

In Xochicalco the date 9-Ehecatl is associated to the year 6-Acatl. We will comment this 6-Acatl year bearer later, let us first discuss the 1-Acatl date corresponding to Venus inferior conjunction associated to the nodal 9-Ehecatl in the year 623.

THE YEAR 1-ACATL

Of course, the day 1-Acatl related to Quetzalcoatl is mentioned everywhere as a year bearer day. According to the known postclassical calendar on the Altiplano the year 623 AD should have been a year 1-Tochtli. For example, when the Spaniards came in the year 1519, it was a year 1-Acatl in the calendar of Tenochtitlan. The Aztecs themselves and almost all later commentators were misled by this date and took it for the prophesized year of the return of Quetzalcoatl. But that 1-Acatl year date was then obsolete, it had become only ritual, conventional and emblematic for the birth and death of Quetzalcoatl and all had forgotten then that the date 1-Acatl for the birth, death and return of Quetzalcoatl belonged to an ancient tradition which had used another set of year bearers. In its original calendar which I call "Toltec", Mixteca or Cholula this 1-Acatl year for the prophesized return of Quetzalcoatl should have fallen on a New Fire Ceremony year,⁹ with a shift of 13 years earlier than the place it occupied in the 1-Tochtli system, that is to say not in the year 1519 but in 1506/1507. Hugo Moedano had already discussed this problem in his paper "1-Acatl igual 2-Acatl" (Moedano, 1951). I agree with him in general terms but would prefer the solution "1-Acatl igual 1-Tochtli" because the Aztec reform to celebrate the New Fire in the years 2-Acatl was a late eccentric invention but the traditional year for the ceremony had been for long the years 1-Tochtli in post-classic cultures of the altiplano. In the original tradition concerning Quetzalcoatl, the 1-Acatl years necessarily had to include the New Fire Ceremony. It means that in that specific year bearer convention ("Toltec", mixteca, Cholula), the 20th of January 623 was a day 9-Ehecatl of a year 1-Acatl. In these conditions, and if Venus and the node of lunar orbit are intrinsically connected, the situation of the nodes and Venus for the New Fire at Xochicalco are of course of the highest interest.

Julian day 1948625; 9-Ehécatl; 20.I.623; Node 1; Venus -31.

Julian day 1948656; 1-Acatl; 20.II.623; Node 32; Venus 0.

THE YEAR BEARER 6-ACATL

All that is very nice but in Xochicalco we do not encounter the year bearer 1-Acatl, we are confronted to another year bearer system. In two instances, once on the calendar inscriptions of the façade of the Temple and the other on a large monolith, the date 9-Ehecatl is accompanied by the year bearer 6-Acatl.

⁹ This would need a long explanation but let us only mention here that according to various sources, the Toltec kings, among others Quetzalcoatl, were supposed to live or reign for 52 or 104 years, just the same as the lapse of time between New Fire Ceremonies. Ideally, the death and enthronizations of Toltec kings were synchronized with the New Fire Ceremonies. More information on the subject will be found in my book "Topiltzin Actor" to be published in 2021 or 2022.



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Fig. 14. (left), year 6-Acatl, left side of Facade of the Feathered Serpent temple.

Fig. 15. (right), four crossed circles over the year 6-Acatl monolith with the date 9- Ehecatl on the other side.

Because the temple in Xochicalco is evidently a monument dedicated to the New Fire Ceremony and the year bearer 6-Acatl is the most prominent in the inscriptions, accompanying the principal calendar set on the facade of the temple, I believe that the year 6-Acatl was in the convention of Xochicalco the year of the New Fire ceremonies, in this case corresponding approximately to the years 623 A.D and 830 AD. To pass from a year 1-Tochtli to a year 6-Acatl, is not very complicated, it is enough to change the year bearer reference day in the Xihuitl from 20 Tititl to 5 Nemontemi. In other words, from the last day of the last month of 20 days (day 360) to the last day of the five additional nameless days (day 365). Only 5 days of shift. This might give another indication concerning the different influences in Xochicalco. If the last day of the year is the last Nemontemi, it means that the first day of the following year is the first day of the first month which recalls the Maya system using the start of the year on 0 Pop for year bearer. The fifth of Nemontemi can be considered as the “seat” of the first month of the next year, expressed by zero of the first month in the Maya system. The influence of Maya traditions has been noticed and commented for long, for example by the Maya convention of writing 5 by a bar. This position of the year bearer on 5 Nemontemi might be another one of them.

Here are the positions of the years of the New Fire Ceremonies according to these different year bearers.

- The year 1-Tochtli ends on 3.09.623 AD the year bearer being the day 20 Tititl (J.D. 1948851) (Caso, 1967; 1971).
- The year 6-Acatl ends on 8.09.623 AD the year bearer being the day 5th of Nemontemi (JD1948856).
- The year 1-Acatl ends on 7.11.623 A.D., the year bearer being on the day 20 Tlacaxipehualiztli (JD 1948916).
- The year 1-Ik starts on 7.03.622 A.D., the year bearer being the day 0 Pop (JD 1948306).

All four of these systems include the Nodal passage of the Sun on 20 I 623 and the inferior conjunction of Venus 32 days later on 20 II 623 which command the New Fire Ceremonies.

11-OZOMATLI AND 4-CALLI



Fig. 16. The astronomical panel left side of the façade, temple of the feathered serpent, Xochicalco.

The most prominent and puzzling part of the calendar inscriptions on the façade of the temple in Xochicalco is a cartouche with the date 4-Calli from which emerge two hands, one of them holds a rope tied to another cartouche with the glyph 11-Ozomatli. The other hand seems to drop a glyph with one point inside, a number one. Does it represent a day? a chalcihuitl? a xihuitl? a year?